

- 1 *Anisomys imitator*
- 2 *Canis familiaris*
- 3 *Dactylonax palpator*
- 4 *Dasyurus albopunctatus*
- 5 *Dendrolagus finschi*
- 6 *Dobsonia* (Large)
- 7 *Dobsonia* (Small)
- 8 *Eudromicia caudata*
- 9 *Halicore dugong*
- 10 *Hydromys habbema*
- 11 *Hydromys asper*
- 12 *Hydromys chrysogaster*

2 km E Mt Wilhelmina
3800 m

7 km NE Mt Wilhelmina
3600 m

Lake Habbema
3225 m

9 km NE Lake Habbema
2810 m

Dele River
2200 m

Balin River
1600 m

18 km SW Derward Camp
2150 ft.

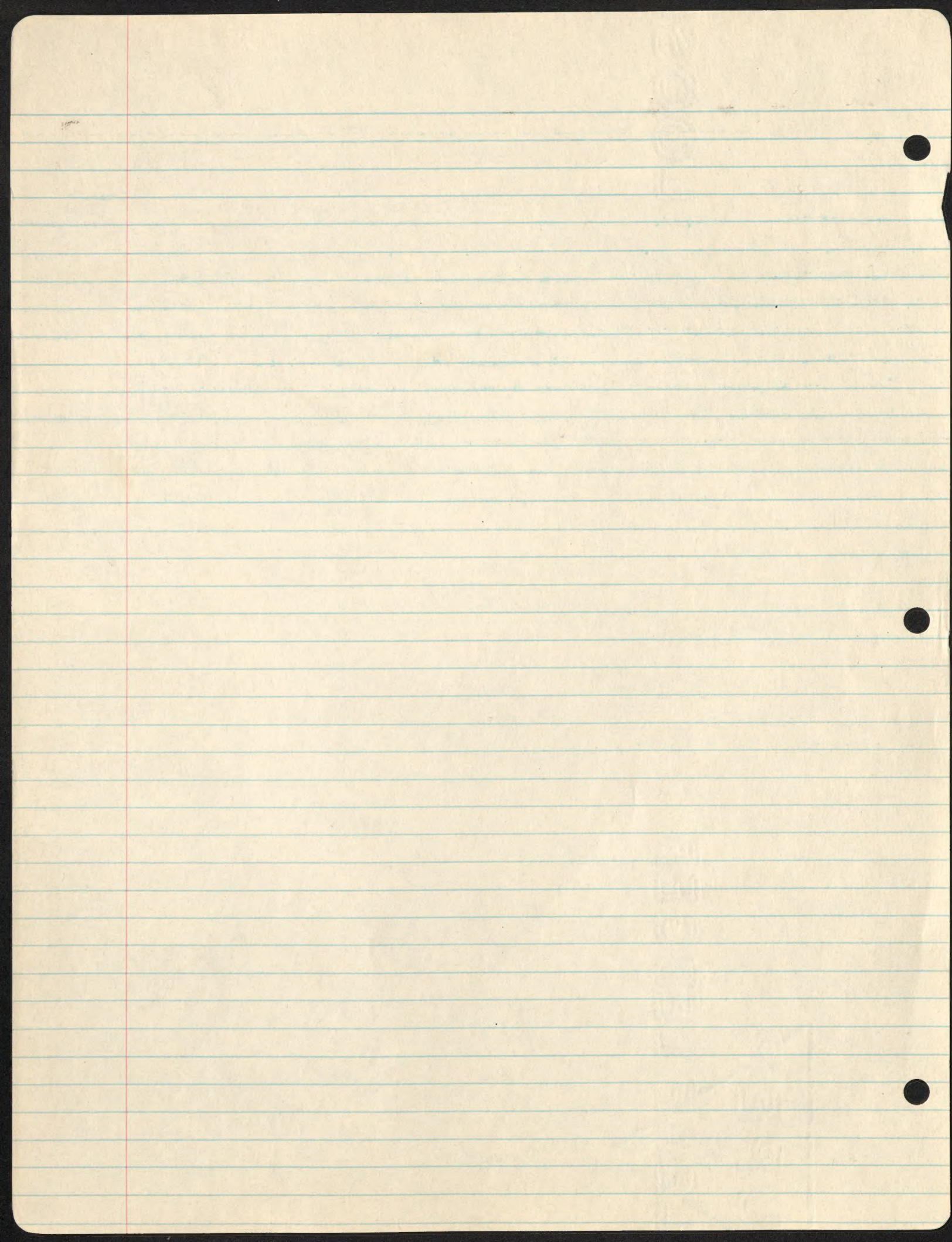
15 km SW Derward Camp
1800 m

6 km SW Derward Camp
1200 m

4 km SW Derward Camp
850 m

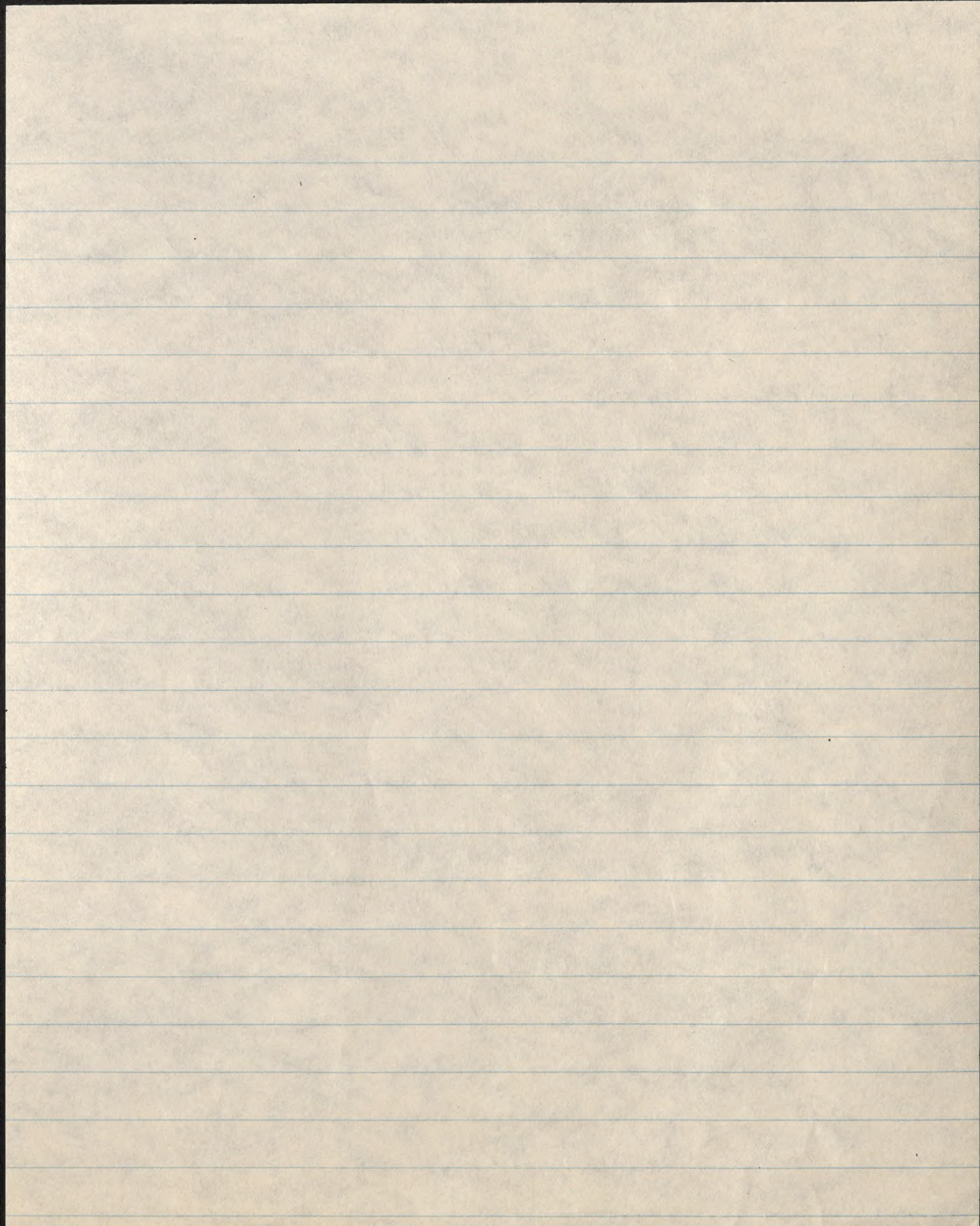
Derward Camp
60 m

Hollandia
500 ft.



Arvomya imitator - This large rat with the laterally compressed lower incisors were taken at 4 different camps ranging in altitude from 2800 m to 1200 m.

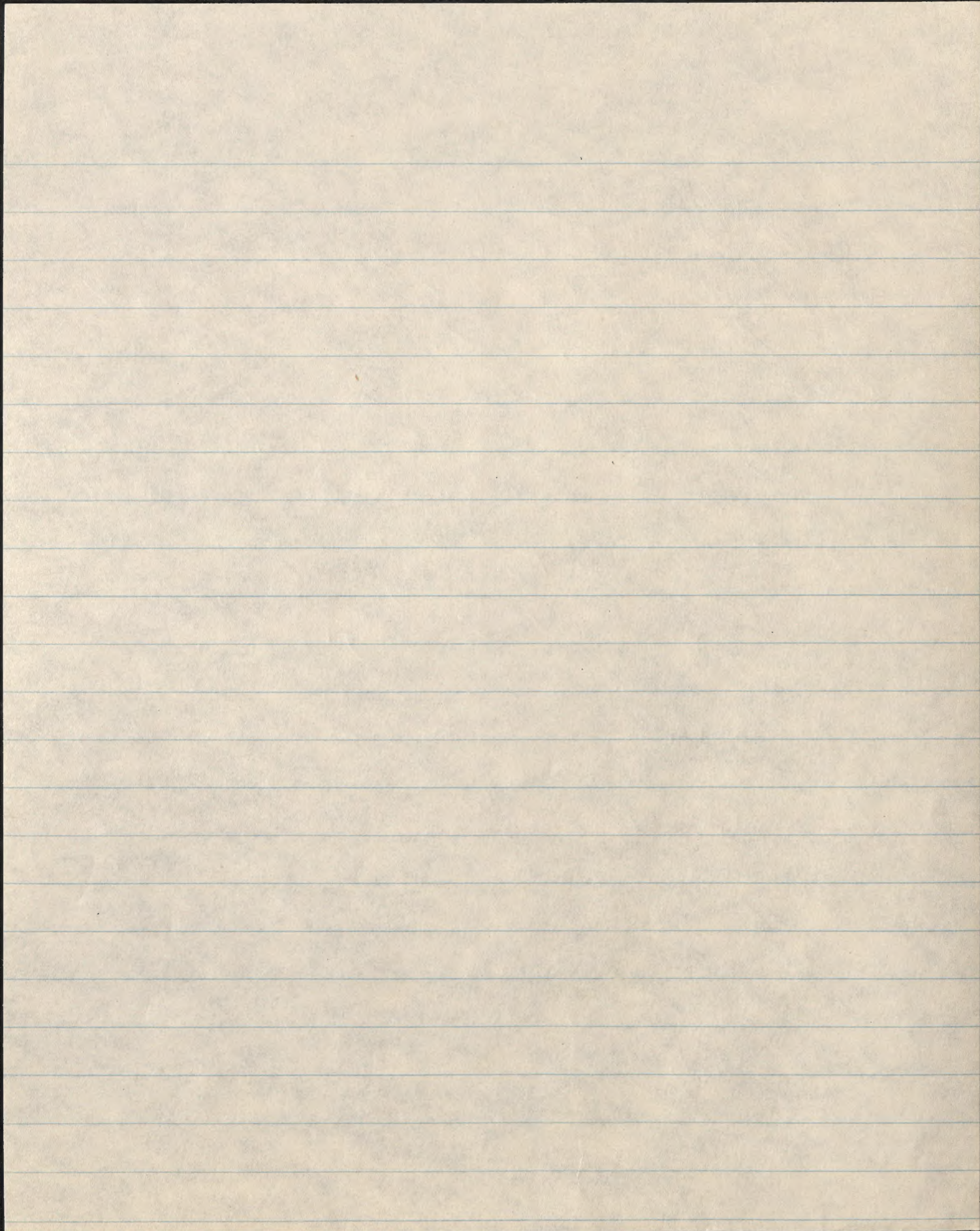
Four specimens were obtained at the 2800 m camp. One of these was caught in a trap set in a well defined runway on the floor of the mossy beech forest. The trail though it had a definite direction seemed to avoid the heavily littered areas following a course through the open brushy undergrowth over the moss covered forest floor. Two other specimens were taken in a somewhat similar habitat 100 m below the camp. The other specimen recorded from the camp was brought in by natives. It was probably taken at a lower altitude for the leaves in which it was trapped were dry and the skin itself was dry as if having been caught a day or two previously. It had apparently been taken



in a dead fall.

At the Bele River camp 98 specimens were prepared all of which were brought in by the natives. These were taken in dead falls as described on p. —. In this series there were two or more lactating ♀s. The fact that immature animals as well as lactating ♀s were taken would indicate that the breeding season, if there is one, must be long. The mammary formula is 1-1 anteriorly and 2-2 posteriorly. The anterior pair being situated rather high on the side just back of the front legs where the dark color of the dorsal surface meets the light color of the ventral. On the chest of many of the mammals between the front legs there is an oily appearing spot varying in size from 5 to 8 mm in length. I have no information as to its use.

A single ♀ specimen was taken at the

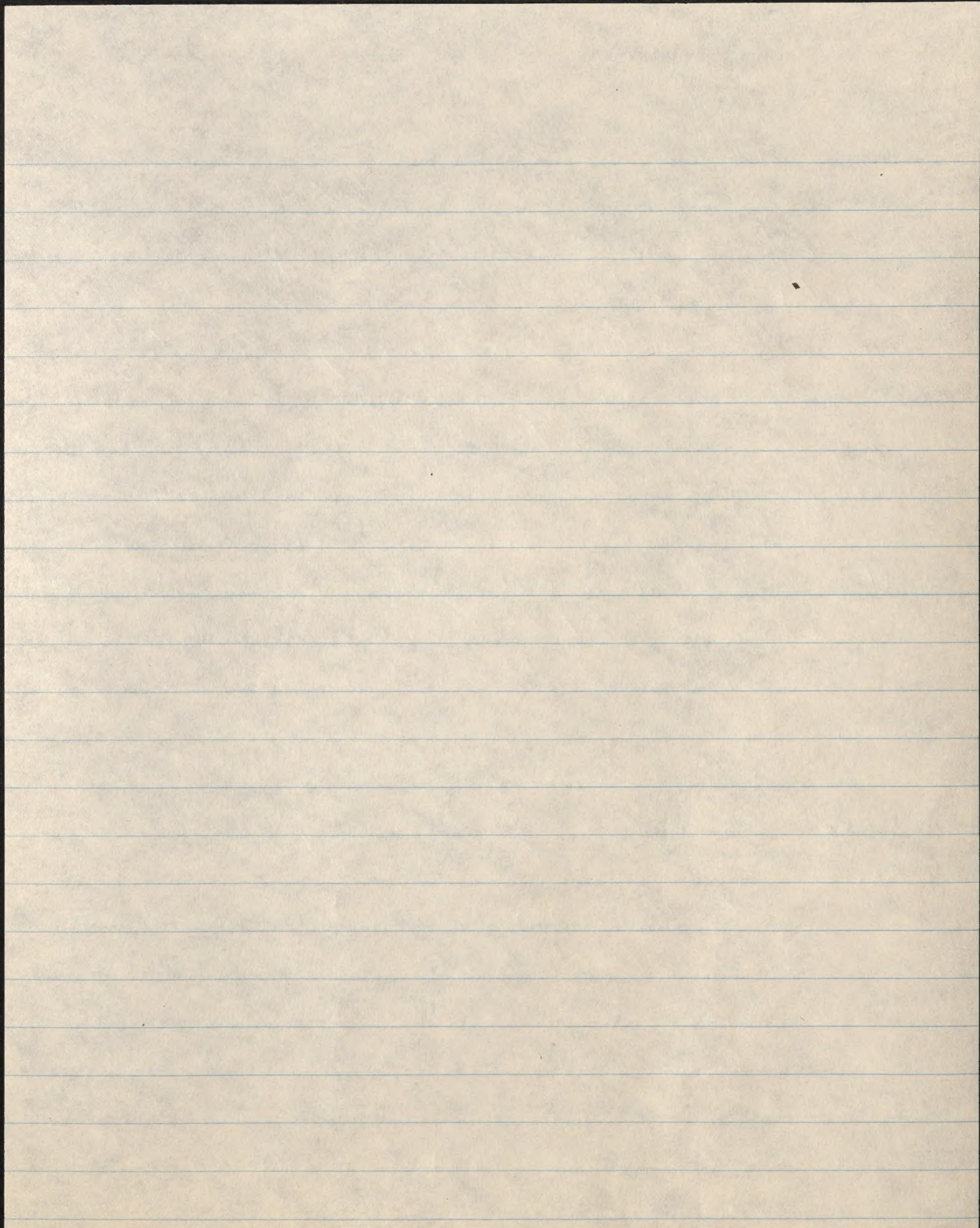


2150 m camp. The trap in which it was caught was set in a well defined runway through a bamboo thicket at the base of a large tree in the rather open mossy forest.

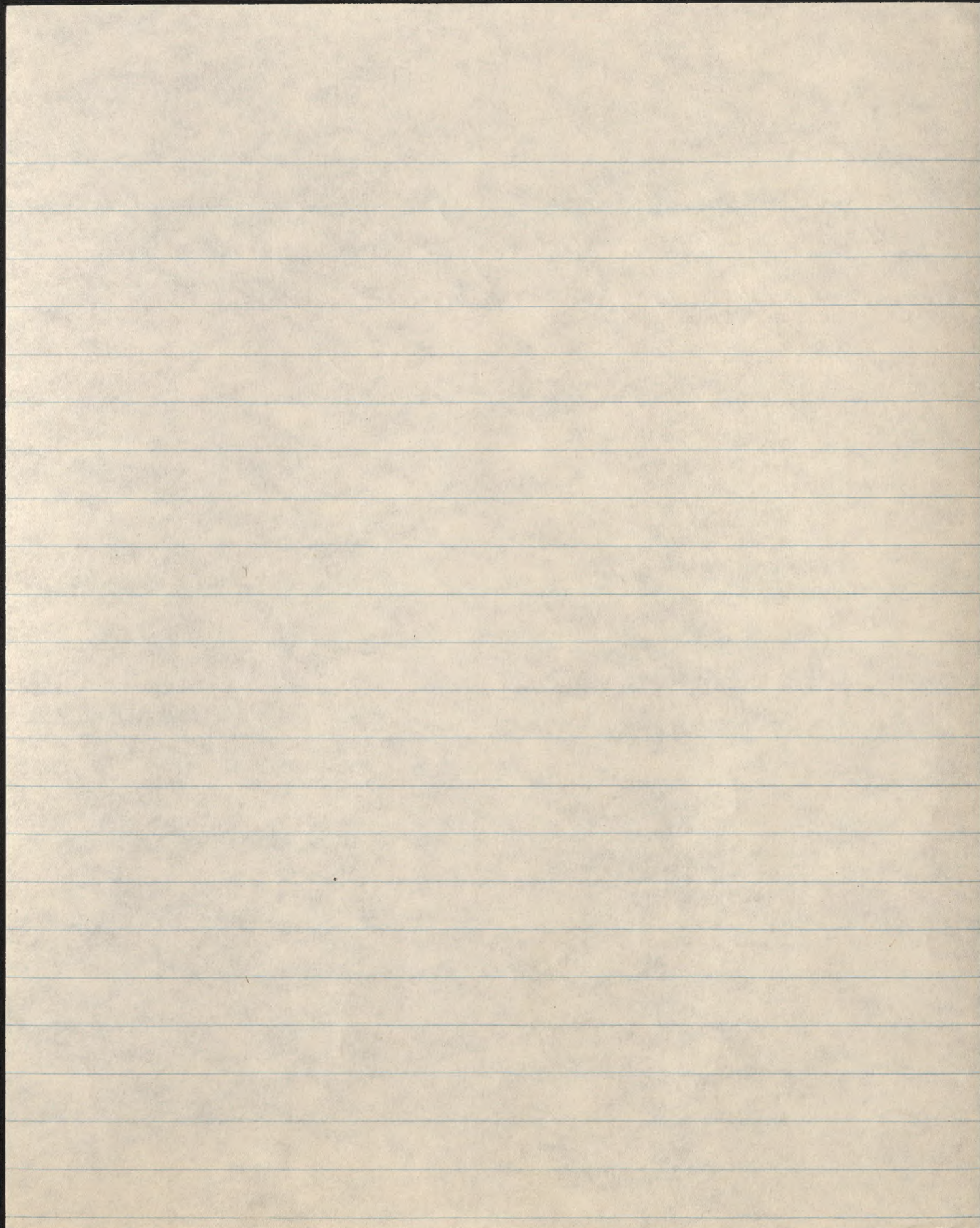
These runways were quite common in this region and may or may not have been made by Anisomys for other mammals as Uromys, and Peroryzetes, were found to use them as well. The mammae of this individual were enlarged but there was no sign of lactation nor was there embryos or enlarged uteri.

No specimens were taken at the 1800 m camp although they probably occurred there.

At the 1200 m camp 2 specimens were obtained. One ^{was} brought in by a collector, and the other was taken in a trap set on a log forming a bridge across a stream. This stream flows in a V shaped rocky canyon with steep moist walls vegetated with mossy forest. The trees of the primary



forest were scattered letting in considerable light to the moderately thick undergrowth and second story vegetation.



Anisomys imitator. This large rat with the laterally compressed lower incisors was taken at 4 different camps, ranging in altitude from 2800 m. to 1200 m.

Four specimens were obtained at the 2800 m. camp. One of them was caught in a trap set in a well defined runway on the floor of the mossy beech forest. This trail, though it had a definite direction, served to avoid the heavy littered areas, following a course through the open bushy undergrowth over the moss covered forest floor. Two other specimens were taken in a somewhat similar habitat 100 m. below the camp. The other specimen recorded from the camp was brought in by natives. It was probably taken at a lower altitude, for the leaves in which it was wrapped were dry and the skin itself was dry, as if it had been caught a day or two before. It had apparently been taken in a deadfall.

At the Bele River Camp 98 specimens were prepared, all of which were brought in by the natives. These were taken in deadfalls as described on p. . In the series there were two or more lactating ♀'s. The fact that immature animals as well as lactating ♀'s were taken would indicate that the breeding season, if there is one,

Antelope Island. This large island is the only one

pressed to the interior has been a different camp, and the

distance from the lake is about 1000 ft.

Some specimens were obtained at the 1000 ft. camp. One of them

was caught in a trap set in a well-wooded area on the floor of

the mossy forest. This was the only specimen taken at this

location, and it was the only specimen taken at this

location through the open brushy area on the west side of

lower floor. Two other specimens were taken in a somewhat

higher 100 ft. below the camp. The other specimen recorded from

the camp was brought in by natives. It was probably taken at a

lower altitude, for the forest in which it was trapped was very

low and the forest was very dry. It is not clear whether it was

before. It has apparently been taken in a different

at the same time as the other specimens were taken, all of which

were brought in by the natives. These were taken in different

described on p. 1. In the series there were two or more

of the fact that the animals were well preserved and

taken would indicate that the species is new. It is the only

must be long. The mammary is 1-1 anteriorly and 2-2 posteriorly, the anterior pair being situated rather high on the side just back of the front legs, where the dark color of the dorsal surface meets the light color of the ventral. On the chest of many of the mammals, between the front legs, there is an oily appearing spot varying in size from 5 to 8 mm. in length. I have no information as to its use.

A single ♀ specimen was taken at the 2150 m. camp. The trap in which it was caught was set in a well defined runway through a bamboo thicket at the base of a large tree in the rather open mossy forest. These runways were quite common in this region, and may or may not have been made by Anisomys, for other mammals, as Uromys and Peroryctes, were found to use them as well. The mammae of this individual were enlarged but this was no sign of lactation nor was there an embryo or enlarged uterus.

No specimens were taken at the 1800 m. camp, although they probably occurred there.

At the 1200 m. camp 2 specimens were obtained. One was brought in by a collector, and the other was taken in a trap set on a log forming a bridge across a stream. This stream flows in a V shaped rocky canyon with steep moist walls vegetated with mossy forest.

must be long. The canopy is 1-2 m. high and is very dense.

The surface being covered with a thin layer of leaf litter.

of the low trees, which are the main part of the forest.

the light color of the bark. On the other hand, the bark of the

between the trunk and the branches is only a few centimeters in

size from 5 to 10 cm. in length. It is a few centimeters in

a single specimen is taken. The bark is very thin and is

which is a common one in a well defined forest, although it is

not common in the base of a large tree in the forest, open

forest. These animals were quite common in this region, and they

may have been seen by the collector. For other mammals, as birds and

reptiles, the number of specimens taken is small. The number of birds

which were collected was also small. The number of birds which

in the region of the forest.

No specimens were taken of any other birds, although they

probably occurred there.

In the low m. area, a specimen was collected. One was brought

in by a collector, and the other was taken in a trap set on a log

forming a ridge across a stream. This stream flows in a narrow

rocky canyon with steep sides. The vegetation is very dense.

The trees of the primary forest were scattered, letting in considerable light to the moderately thick undergrowth and second story vegetation.

The views of the primary project are not considered, leaving in consideration

the right to the project and the project is not a project.

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STAFF REPORT

Anisomys

Oct 23 9 km NE Lake Habbema, Netherlands New Guinea 2800m.

1 in 29 stub tups. The trap was set in a runway through the open bushy top of the mossy forest. The trail was well defined and directional. Although there was little in the vicinity the trail was ^{not} beneath the logs and such but rather it followed the more open areas where there are ~~the~~ ^{are} scattered thin bush thickets and open moss and leaf covered forest floor.

Oct 28 9 km NE Lake Habbema, Netherlands New Guinea 2800m.

1 brought in by natives. It had probably been brought up from below for the leaves in which the nest was reposed were dry and the skin itself was dry as if having been caught a day or more ago. It was apparently taken in a dead fall.

Oct 30 9 km NE Lake Habbema, Netherlands New Guinea 2700m.

1 in 29 stub tups. Brought in and prepared by collectors.

Nov 5 9 km NE Lake Habbema, Netherlands New Guinea 2700m.

1 in 29 stub tups. Brought in by collectors.

Nov 8 Belu R. 18 km NE Lake Habbema, Netherlands New Guinea 2200m.

1 brought in by natives.

Nov 12 Belu R. 18 km NE Lake Habbema, Netherlands New Guinea 2200m.

1 brought in by natives.

Nov 14 Belu R. 18 km NE Lake Habbema, Netherlands New Guinea 2200m.

2 brought in by native.

Nov 15 Belu R. 18 km NE Lake Habbema, Netherlands New Guinea 2200m.

2 brought in by natives.

Nov 16 Belu R. 18 km NE Lake Habbema, Netherlands New Guinea 2200m.

2 brought in by native.

- Nov 17 Belu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
2 brought in by natives.
- Nov 19 Belu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
6 brought in by natives.
- Nov 20 Belu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
2 brought in by natives.
- Nov 21 Belu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
1 brought in by natives.
- Nov 22 Belu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
4 brought in by natives.
- Nov 23 Belu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
6 brought in by natives. Two adult females were or had been recently suckling young ($1\frac{1}{2}$). The second pair was set apart on the side of the forest and back of the lower edge of the shrub layer.
- Nov 24 Belu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
9 brought in by natives. Between the two fays there is a mass of greasy or oily hair, which leads one to believe that there is an "oil patch" in this vicinity, although my eyes cannot detect any modified skin structure below the greasy hair.
- Nov 25 Belu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
1 brought in by natives.
- Nov 26 Belu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
7 brought in by natives.
- Nov 27 Belu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
4 brought in by natives.

Anisomys

Nov 28 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
11 brought in by natives.

Nov 29 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
5 brought in by natives.

Nov 30 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
4 brought in by natives.

Dec 1 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
5 brought in by natives. $\text{mm. } \frac{1}{1} \frac{2}{2}$

Dec 2 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
8 brought in by natives.

Dec 3 Beli R. 14 km N Lake Habbema, Netherlands New Guinea 2200m.
2 brought in by natives.

Dec 4 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
10 brought in by natives.

Feb 6 18 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 2150m.
1 in 224 rat traps. Taken in trap set in
runway about the base of a large tree. The region
or rather the habitat was mossy forest with bamboo
undergrowth. About the base of the tree, however, there
was an unusually dense bushy thicket which
protected or gave cover to the animal. The te.
 2'2' were enlarged but no signs of lactation nor
was there any emb. or an enlargement of the
stomach.

Mar 2 6 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200m.
1 in 27 stick traps. Trap set on a large
log crossing a stream. The stream itself flows
in a ~~deep~~ steep rocky canyon basin. The log
formed a bridge across the creek from one
vegetated slope to another. Habitat is ^{steep} moist
hill slope vegetated with thick undergrowth and

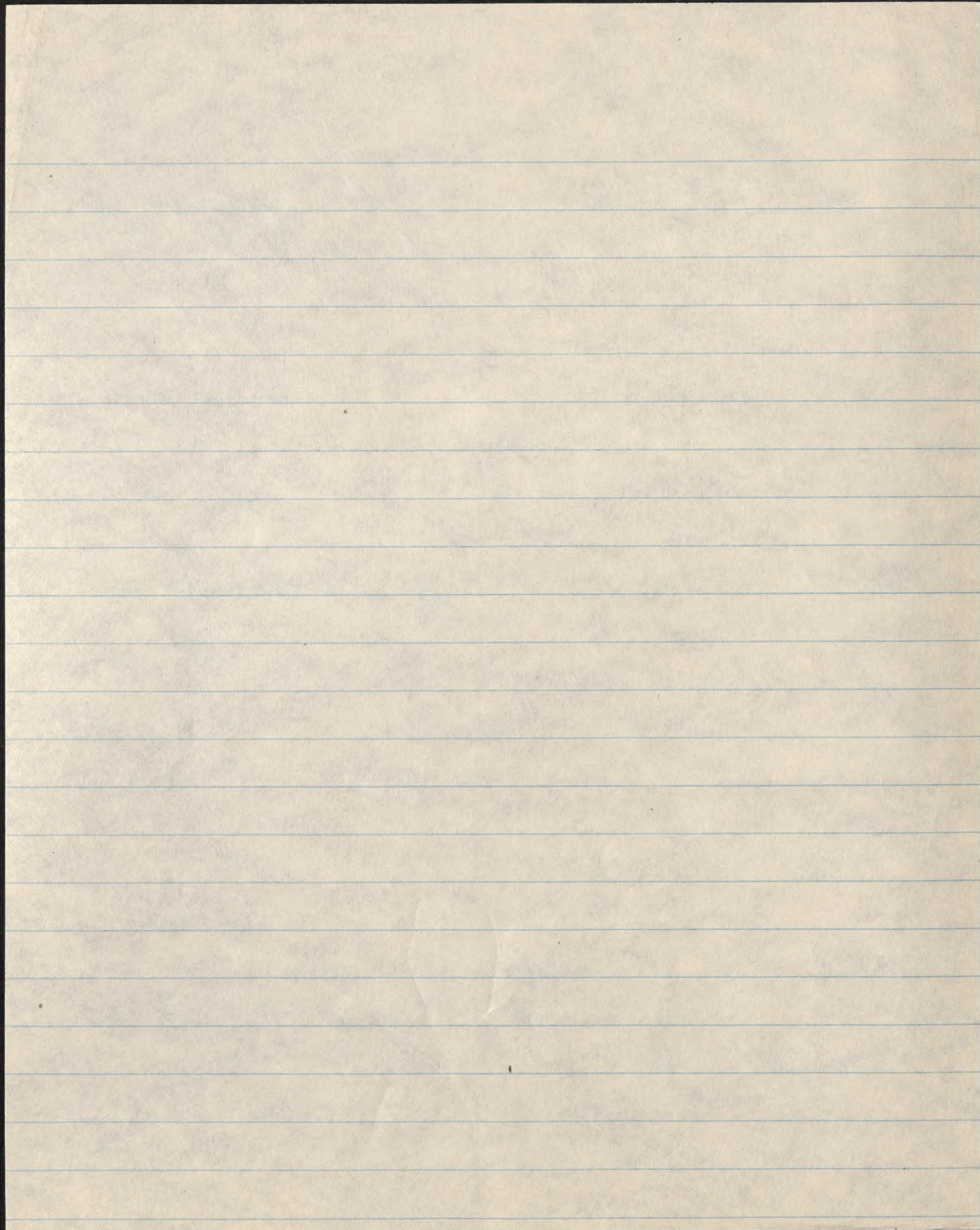
second story vegetation. The primary forest trees
are scattered and do not form a complete
canopy. Stomach ~~contents~~ was empty.
Mammary glands. - 2 posterior pair and 1 anterior
pair.

Mar. 5 6 Km. SW Benabang Camp Irian Jaya, Netherlands New Guinea 1200m.
1 in 27 stub trays. Brought in by
collectors. Stomach empty.

1

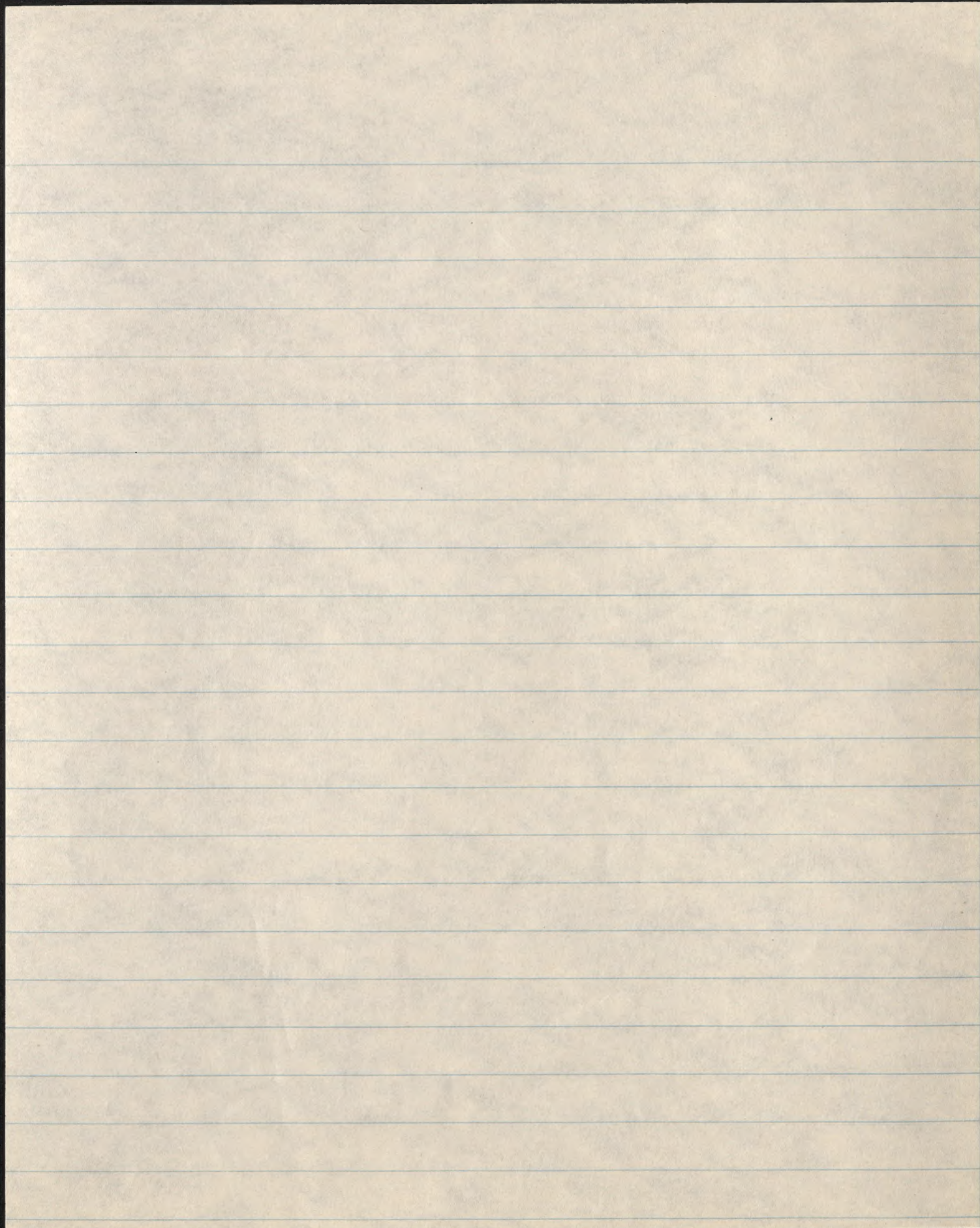
Canis familiaris - The dogs were taken from the vicinity of Lake Habbema or above although dung and tracks of them were commonly seen up as high as 4000 m. on the ridges or along the muddy foot paths. While camped there I did not hear them vocally but Mr. L. J. Bruce reports having heard them howl on several different occasions one of which was from a limestone bluff above the 3600 m camp. Examination of a number of scats would indicate that these animals fed principally upon Malomys and Stenomys (2 sp.) which were found commonly at the higher altitudes. Fruit, berries, and insects seemed to make up the remainder of their diet. On two different occasions dogs were caught in steel traps but in each instance the animal managed to pull loose.

At the 2800 m and 2200 m camps no dogs were seen or heard. It is probable that they occasionally come into the ranges



forest country although there was no evidence of it. The natives of the region did not have domestic dogs.

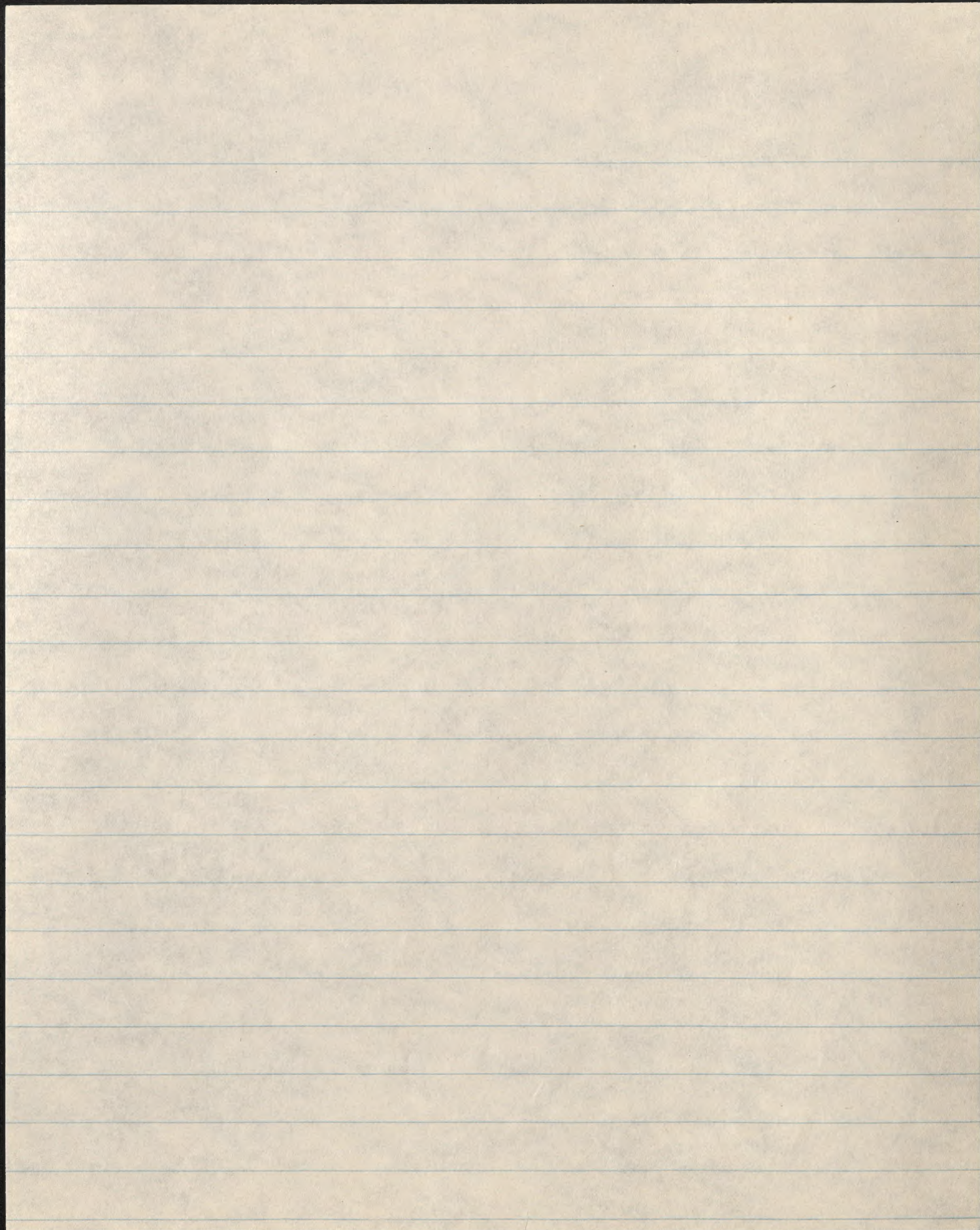
One individual, the only one seen in the Grand Valley, was purchased from the natives near the Balim River camp. This half-wild animal belonged to a native who told me that he had dug it out from the hill side when it was small. After much bargaining it was purchased for the sum of 30 cowrie shells the highest price paid for any article obtained from the natives. The beast was small about 300 mm high at the shoulders, 800 mm total length, and 350 mm tail length. These figures are estimations rather than actual measurements. The color was that of black and white in broad marks, the latter color predominating the anterior half. The tail was held in a slight upward curve, not looped. The ears were erect and pointed. The hair was moderately short and with a general sleek shiny appearance.



It was a nervous cowering beast which ~~shed~~^{shivered and shuddered} at our approach only to be brought back by its attentive owner. Apparently it is highly prized by the natives although I do not know what value it has other than the fact that its fur may be used for ornamentation.

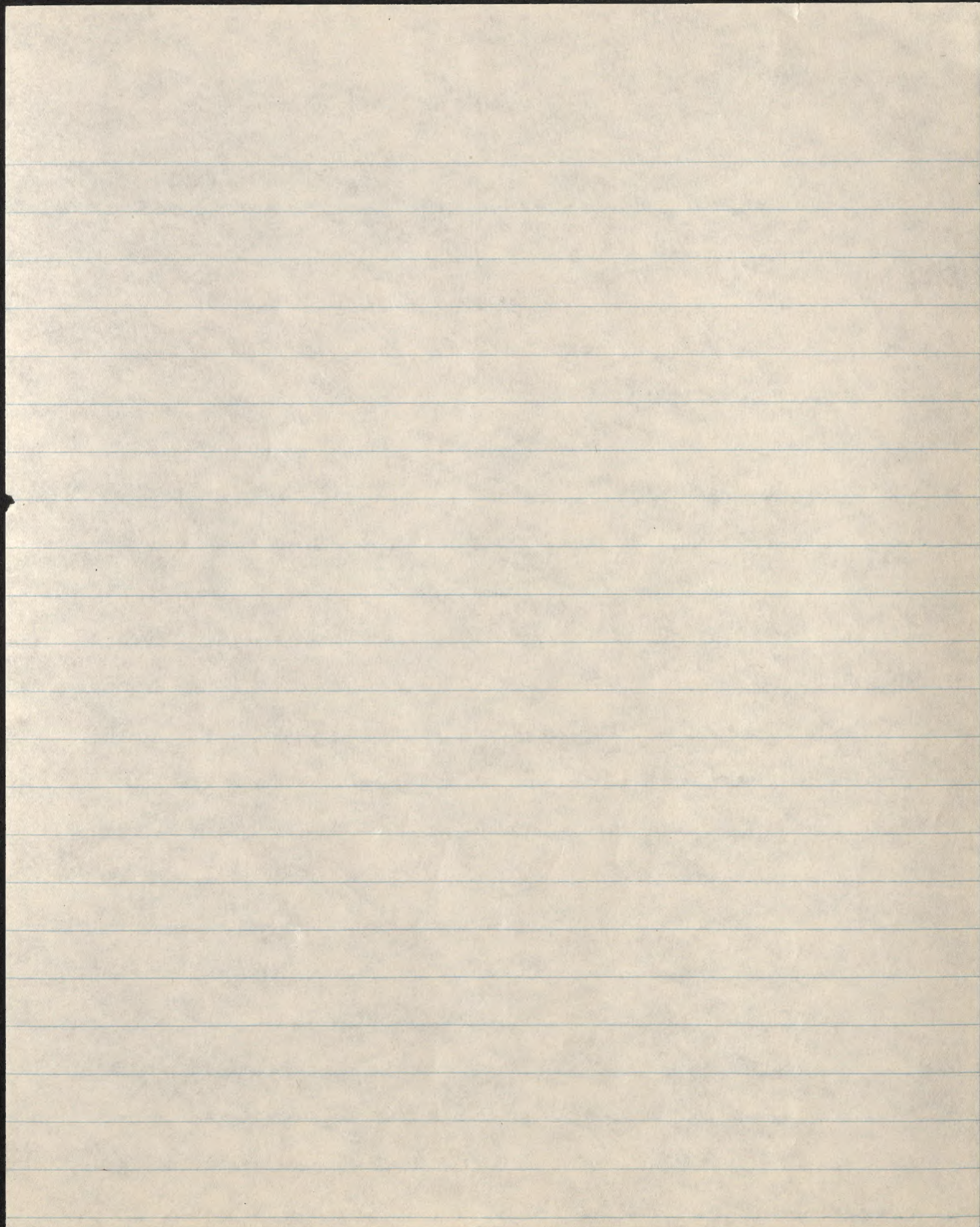
At the 2150 m camp above the Idinbung River a dog was caught in a stake trap. Its whining howl was heard distinctly from more than $\frac{1}{4}$ mile away. Unfortunately the dog escaped while a Dyak collector was trying to pin it beneath a forked stick. According to this collector it was a ♂; brown and white in color; about 16 inches high, and about 24 inches long in body. This animal was caught in a trap set on a ridge top trail through a bamboo thicket in the mossy beech forest.

Although no dogs or their signs were seen about the 1800 m and



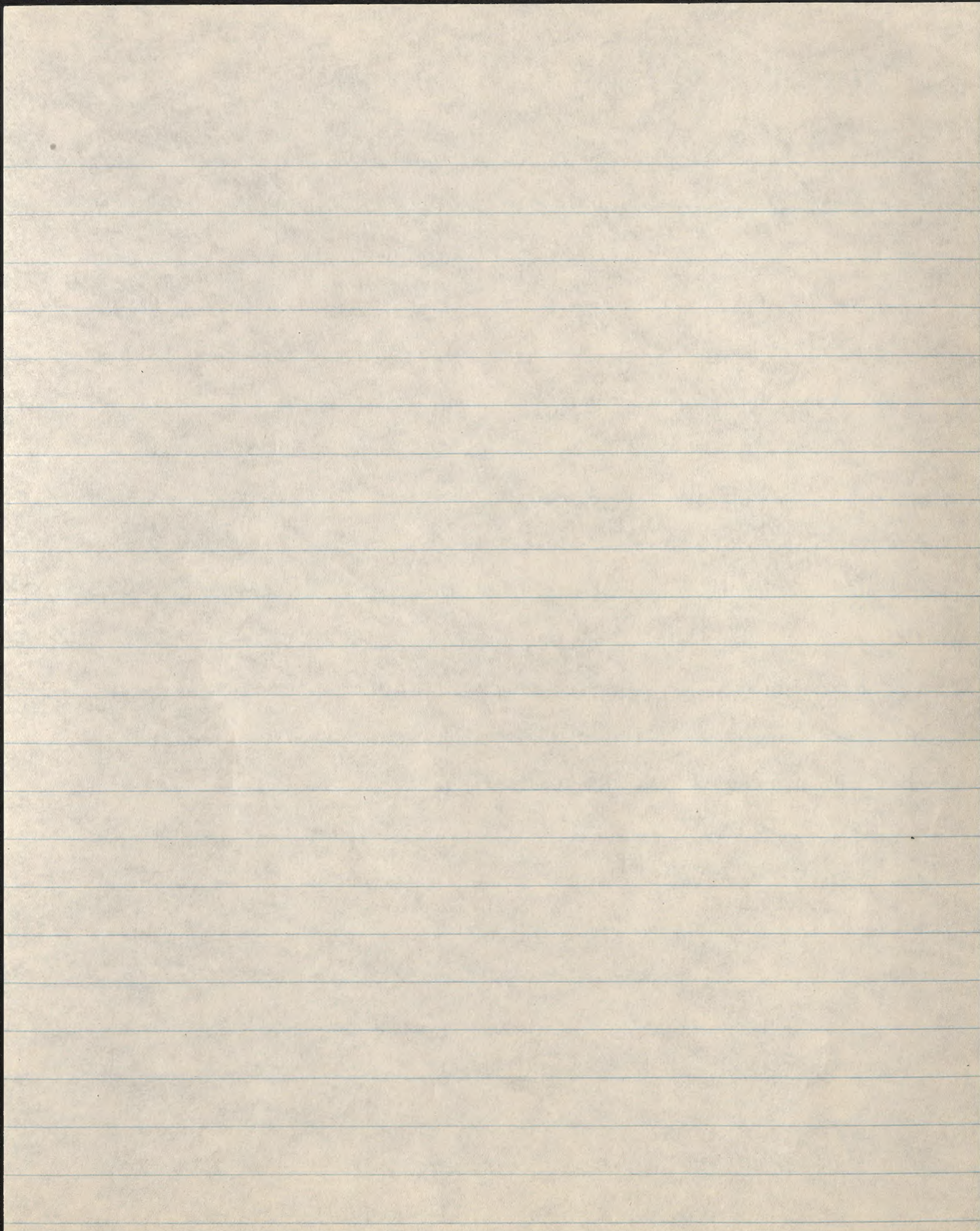
1200 m camps they probably occurred uncommonly in this region.

At the 850 m camp a number of dogs were brought in by the natives 4 of which were purchased, a knife for the small ones, an axe for the larger ones. These natives with their dogs had traveled some 5 days to our camp from their village on the Segie River (10 km SW of Bunkad Camp Idembong River, 800 m). The animals were all much of the same color with large light brown markings against a dirty white background. While tied in camp these dogs howled almost continually and were answered by other Papuan dogs. During the evening too these native dogs which had accompanied their masters in a nearby camp howled frequently. To my knowledge they never barked although they occasionally issued a yapping howl. These dogs were very frightened when near strangers but



behaved like domestic dogs when in the presence of their owners. They responded to call coming to the Papuan when he voiced a throaty "ho". They are apparently well fed and cared for.

A single individual was taken near Bernhard Camp. Although caught in a snare which was set on the main forest floor I believe that the animal was a village dog. This assertion is based on the fact that the hair on the tail was partially burned and the vibrissae were singed which would indicate that the animal had come too close to the camp fire of the native.



Canis

Mar. 10 1/2 Km. SW Bernhard Camp, Schouten R., Netherlands New Guinea 850 m.

2 brought in by natives. According to Dr. Falls who came in with the natives from the Segie River (10 Km SW Bernhard Camp, Schouten R., Netherlands New Guinea 800 m.) there were 5 dogs accompanying them. They were all of much the same shape and size and color. The small one was purchased for 5 shells, the large one for a knife. Had a good opportunity to listen to the vocalization of these beasts. The two purchased animals howled a good deal of the time while they were tied in camp and answered by barks of the other Papuan dogs. During the evening too the native dogs frequently howled. To my knowledge they never barked.

Mar. 11. Dogs were heard in the vicinity of camp about 4:00 and in the evening about 7:00. Boyd reported that he heard them barking but I did not hear anything but their howls. Note. - The larger of the two dogs purchased yesterday was apparently adult but as yet the testicle had not come down.

Mar. 12

2 brought in by natives. They were the same natives (with 1 exception) that brought in dogs on the 10th. These natives brought in 4 for sale 3 sub adults, and 1 old adult. Purchased 2, one subadult for a knife, one adult for an axe. The dogs although afraid of strangers and apparently willing to bite if not allowed to receive one term and react much like ordinary domesticated dogs about the natives. They respond to their calls which is a deep throaty "ho". They apparently are fairly well cared for for both were fat, and had food in their stomachs.

Apr. 19

Bernhard Camp, Schouten R., Netherlands New Guinea 75 m.
1 in 418 snare. Brought in by collectors. Taken on upper flood plain. I believe that this animal was a Papuan dog, that is one of the village dogs. This assumption is based on

the blunt hair of the tail and the ringed
vibrissae.

Canis familiaris. - ^{No}~~The~~ dogs were taken from the vicinity of Lake Habbema or above, although dung and tracks of them were commonly seen up as high as 4000 m. on the ridges along the muddy footpaths. While camped there I did not hear them vocalize, but Mr. L.J. Brass reports having heard them howl on several different occasions, once from a limestone bluff above the 3600 m. camp. Examination of a number of would indicate that these animals fed principally upon Mallomys and Stenomys (2 sp.), which were found commonly at these higher altitudes. Fruit, berries, and insects seemed to make up the remainder of their diet. On two different occasions dogs were caught in steel traps, but in each instance the animal managed to pull loose.

At the 2800 m. and 2200 m. camps no dogs were seen or heard. It is probable that they occasionally come into the mossy forest country, although there was no evidence of it. The natives of the region did not have domestic dogs.

One individual, the only one seen in the Grand Valley, was purchased from the natives near the Balim River camp. This half wild animal belonged to a native who told us that he had dug it out from the hillside when it was small. After much bargaining it was pur-

Canis familiaris. - The dogs were taken from the vicinity of

the house at above, although some of them were taken

from the high road at the village of the same name.

While trapped there I did not hear them barked, but Mr. J. J. these

reports having been taken from several different occasions, once

from a house about 3000 ft. above the 3000 ft. level. Examination of a number

of bones indicated that these animals had been taken from

Canis familiaris (Linn.), which were taken from the same

place. The bones were found in the same place as the

remains of their prey, on two different occasions, and were

in great numbers, but in each instance the animal was found to be

At the 3000 ft. and 3000 ft. levels no bones were seen or heard.

It is probable that they occasionally come into the forest country,

although there was no evidence of it. The natives of the region do

not have domestic dogs.

One individual, the only one seen in the Grand Valley, was

traced from the highest level to a high level. This was with

animal believed to be native who told us that he had seen it out from

the village where it was killed. After much searching it was

chased for the sum of 3.0 cowrie shells, the highest price paid for any article obtained from the natives. The beast was small, about 300 mm. high at the shoulders, 800 mm. total length, and 350 mm. tail length. These figures are estimations rather than actual measurements. The color was that of black and white in broad marks, the latter color predominating on the anterior half. The tail was held in a slight upward curve, not looped. The ears were erect and pointed. The hair was moderately short and with a generally slick, shiny appearance.

It was a nervous, cowering beast which fled at our approach, only to be brought back biting and kicking, by its attentive owner. Apparently it is highly prized by the natives, although I do not know what value it has other than the fact that its fur may be used for ornamentation.

At the 2150 m. camp above the Idemburg River a dog was caught in a steel trap. The whining howl was heard distinctly for more than $\frac{1}{4}$ of a mile away. Unfortunately the dog escaped while a Dyak collector was trying to pin it beneath a forked stick. According to this collector it was a ♀; brown and white in color; about 16 inches high, and about 24 inches long in body. This animal was caught in a trap

measured the area of 3.5 square miles, and highest price for any

measured was 1.5 square miles, and highest price for any

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set on a ridge top trail through a bamboo thicket in the mossy beech forest.

Although no dogs or their signs were seen about the 1800 m. and 1200 m. camps, they probably occurred uncommonly in this region.

At the 850 m. camp a number of dogs were brought in by the natives, 4 of which were purchased, a knife for the small ones, an axe for the larger ones. These natives with their dogs had traveled some 5 days to our camp from their village on the River (10 km. S.W. of Bernhard Camp, Idenburg River, 800 m.). The animals were all much of the same color with long light brown markings against a dirty white background. While tied in camp these dogs howled almost continually, and were answered by other Papuan dogs. During the evening, too, these native dogs, which had accompanied their masters in a nearby camp. howled frequently. To my knowledge they never barked, although they occasionally loosed a yapping howl. These dogs were very frightened when near strangers but behaved like domestic dogs when in the presence of their owners. They responded to call, coming to the Papuan when he voiced a throaty "ho". They are apparently well fed and cared for.

A single individual was taken near Bernhard Camp. Although caught in a snare which was set on the rain forest floor, I believe that the

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animal was a village dog. This assertion is based on the fact that the hair on the tail was partially burned and the vibrissae were singed, which would indicate that the animal had come too close to the camp fire of the native.

and that they are in danger of extinction and are being

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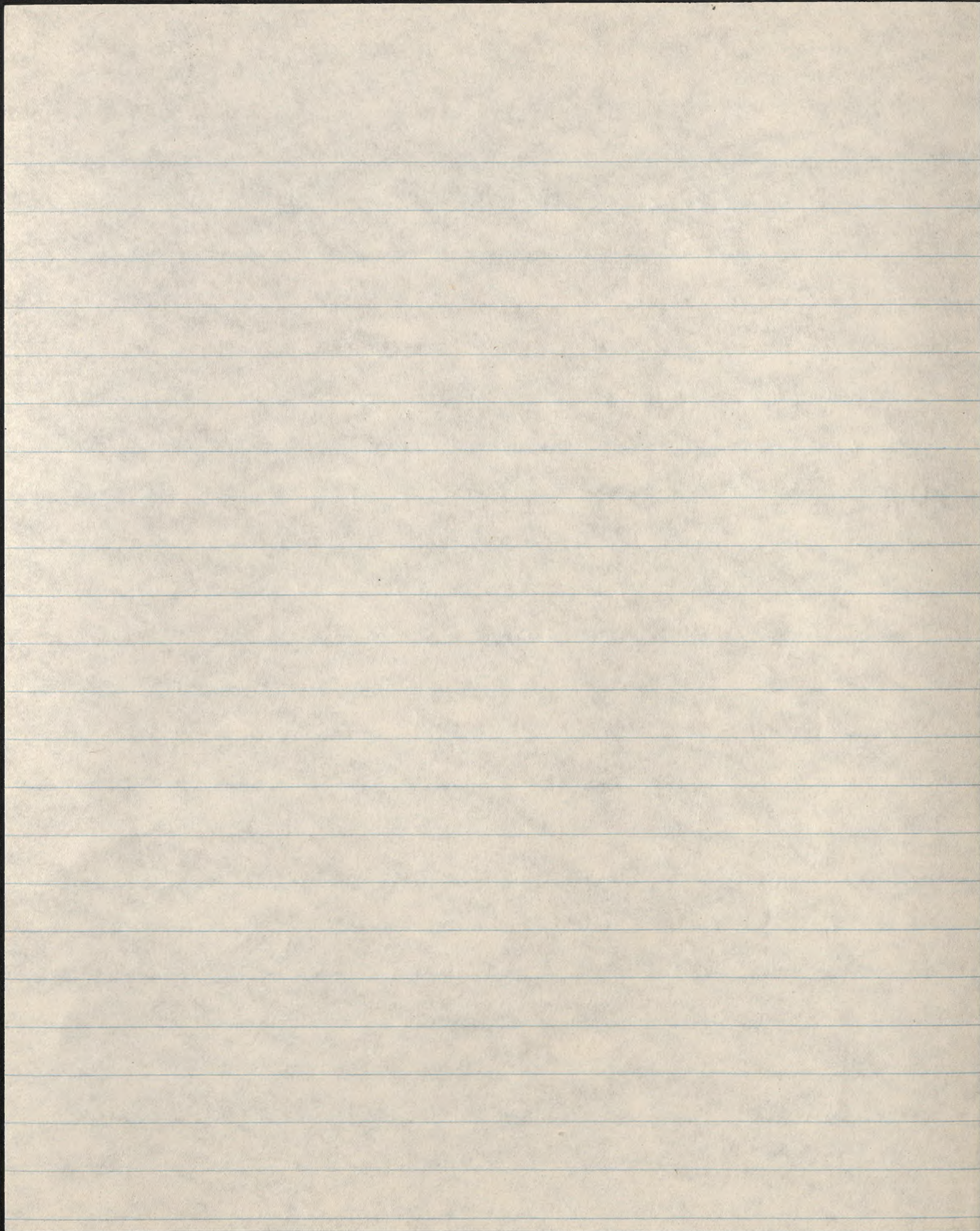
and that they are in danger of extinction and are being

and that they are in danger of extinction and are being

1

Dactylopsax palpata — Two individuals were purchased from natives who brought them into the 2800 or camp. One of these was apparently shot by the natives in the immediate vicinity of camp for it was still warm and bleeding from the arrow wound when brought in. Things of interest about the beast is the heavy build of the body; the long protruding 4th finger with a small claw; the heavy limb, particularly the hind limbs, with its graspable thumb; the abrupt ventral hook on the tip of the tail; the long retractable lower lip; the long tongue; and the sweet musky odor.

At the Belo River camp 6 individuals were brought in by natives. One of these was a ♀ with a large pouch similar to that of the Phalanger and another a young of this ♀. This young though rather large was still dependant upon the ♀ for its existence getting its nourishment from



the single functional mammary gland.

The measurements of this young are as follows:

Total length 210

Tail vert. 93

Hind foot SV 26

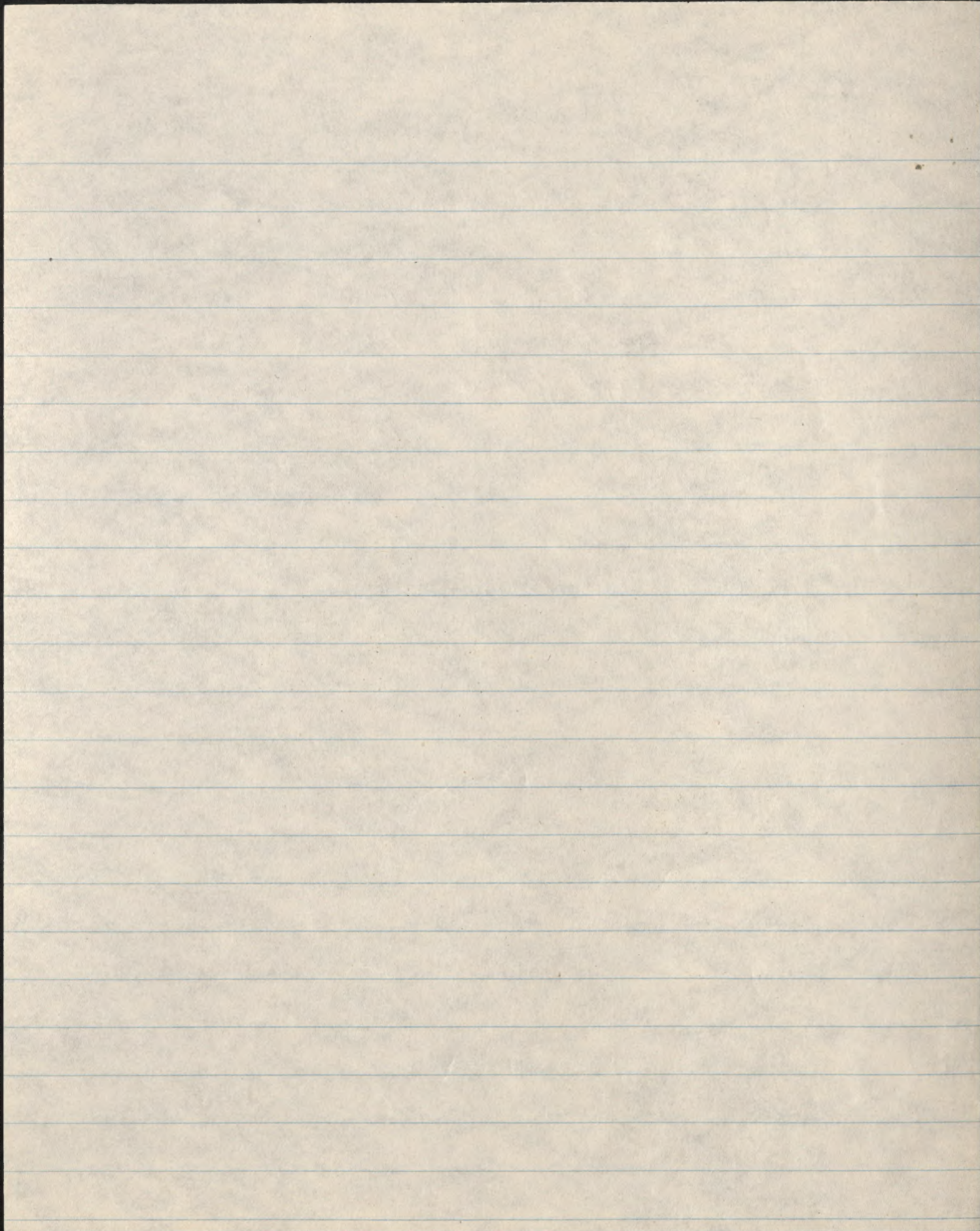
Ear from crown 12

One specimen from the 850 m camp was caught ^{in a crevice at} ^{top of} on a log in the mossy forest.

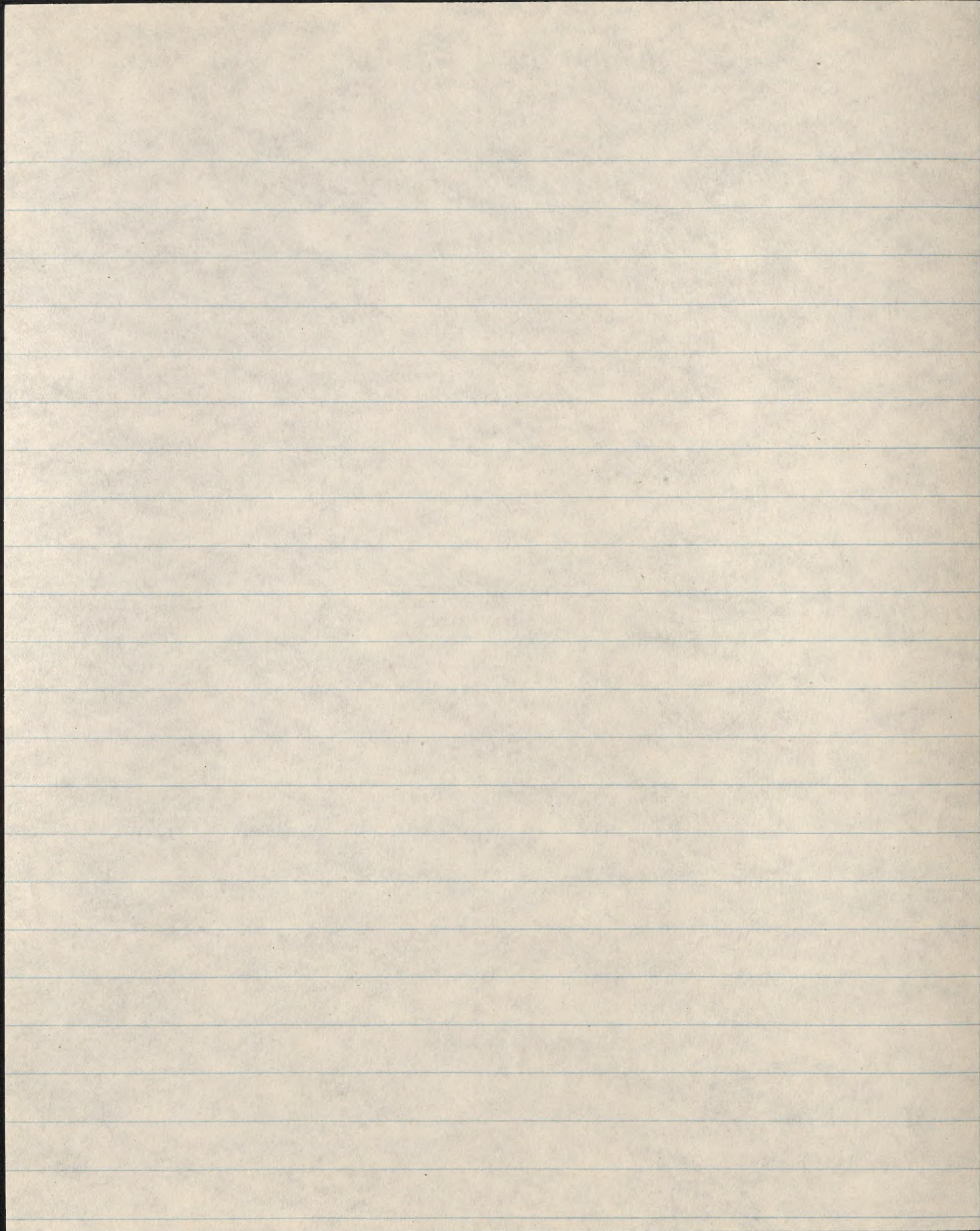
Another specimen was taken by a collector 10 Km SW Bumband Camp at 1500 m. I have no record of the exact habitat except that the general character of the country was mossy forest.

This animal probably occurred at the 2100 m, 1800 m, and 1200 m camps although no specimens were obtained to substantiate this assumption. However there were occasional logs or rotten trees ^{seen} that were broken into by prying - ~~breaking~~ off chunks for the decaying wood which appeared to be the work of this animal.

A penis of an adult ♂ is



bifid dorsocentrally for about $\frac{1}{4}$ its
length. See fig. no —



Dactylonax palpator. - Two individuals were purchased from natives who brought them into the 2800 m. camp. One of these was apparently shot by the natives in the immediate vicinity of the camp, for it was still warm and bleeding from the arrow wound when brought in. Things of interest about this beast are the long heavy body; the long protruding 4th finger with a small claw; the heavy limbs, particularly the hind limbs with the possible thumb; the abrupt ventral hook on the tip of the tail; the long retractable lower lip; the long tongue; and the sweet musky odor.

At the Bele River Camp 6 individuals were brought in by natives. One of these was a ♀ with a long pouch similar to that of the Phalangers and another a young of this female. This young, though rather large, was still dependant upon the ♀ for existence, getting its nourishment by the single functional mammary gland.

The measurements of this young were as follows:

Total length 210

Tail vert. 93

Hind foot 26

Ear from crown 12

One specimen from the 850 m. camp was caught in a snare set on top of a log in the mossy forest.

1. The first of these is the fact that the...

2. The second is the fact that the...

3. The third is the fact that the...

4. The fourth is the fact that the...

5. The fifth is the fact that the...

6. The sixth is the fact that the...

7. The seventh is the fact that the...

8. The eighth is the fact that the...

9. The ninth is the fact that the...

10. The tenth is the fact that the...

11. The eleventh is the fact that the...

12. The twelfth is the fact that the...

13. The thirteenth is the fact that the...

14. The fourteenth is the fact that the...

15. The fifteenth is the fact that the...

16. The sixteenth is the fact that the...

17. The seventeenth is the fact that the...

18. The eighteenth is the fact that the...

19. The nineteenth is the fact that the...

20. The twentieth is the fact that the...

of a log in the mossy forest.

Another specimen was taken by a collector at 10 km. S.W. Bernhard Camp at 1500 m. I have no record of the exact habitat except that the general character of the country was mossy forest.

This animal probably occurred at the 2150 m., 1800 m. and 1200 m. camps, although no specimens were obtained to substantiate this assumption. However, there were occasional logs on rotting trees seen that were broken into by prying off chunks from the decaying wood which appeared to be the work of this animal.

A penis of an adult ♂ is bi dorsoventrally for about $\frac{1}{4}$ of its length. See fig. No. .

of a log in the moss forest.

As the forest was covered by a collection of 10 to 15 ft. ferns.

On the 15th of May, I have to record of the forest which covered the

general character of the country was mossy forest.

This forest probably occurred in the 15th of May, 1900, and 1901.

On the 15th of May, I have to record of the forest which covered the

country. However, there were occasional logs on the forest floor.

There were occasional logs on the forest floor.

On the 15th of May, I have to record of the forest which covered the

country. However, there were occasional logs on the forest floor.

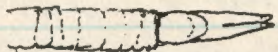
On the 15th of May, I have to record of the forest which covered the

W. B. Richardson
1938
1939

Dactylopsax

- Oct 31 2 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by natives, probably from below.
Theraps of interest about the beast is the heavy build, the long protruding finger with small claw, the heavy limbs, particularly the hind limbs, the abrupt ventral curve at the top of the tail, the long retractable lower lip, long tongue.
- Nov 5 2 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by natives. It was apparently taken in the immediate vicinity for it was still warm and bleeding from the arrow wound when I purchased it.
- Nov 6 Belu River, 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives. It is the first female. I was surprised to find that the pouch was very poorly developed, not perfected, but much the same as *Phlogoth*.
- Nov 12 Belu R. 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.
- Nov 14 Belu R. 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives, what appears to be a ♀ with its young. They were purchased from the same natives at the same time. The ♀ had only 1 functional mammary gland and a large pouch.
- Nov 23 Belu R. 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.
- Dec 2 Belu R. 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.
- Apr 3 4 km SW Burnford Camp Ikenburg R. Netherlands New Guinea 850 m.
1 in 987 snare. Brought in by collector. According to him it was taken in snare.

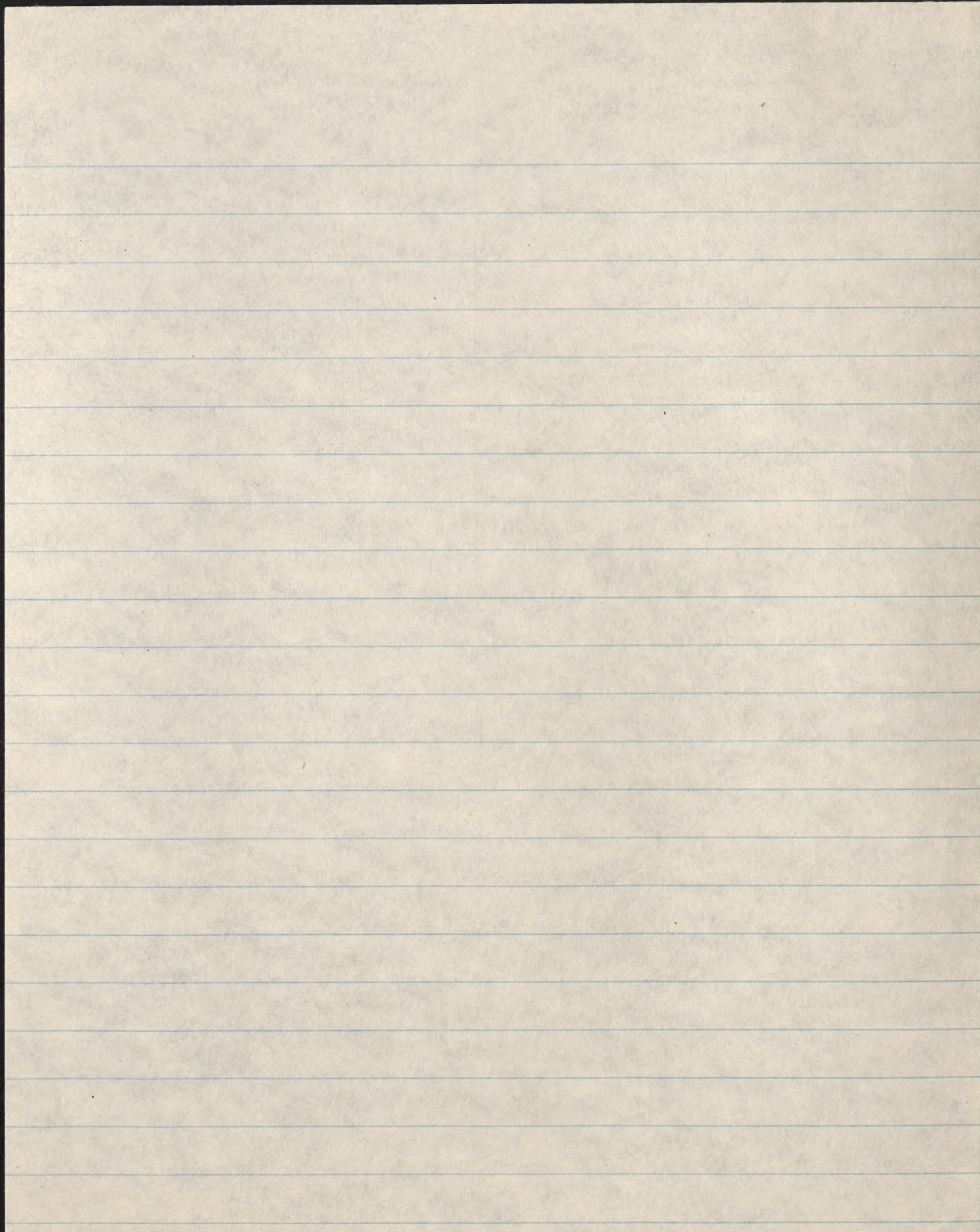
set on top of fallen log. Penis
is bifid also ventrally for about $\frac{1}{4}$ its
length.



1

Dasyurus albopunctatus - One individual was taken near Habbema Lake camp. The trap was set in a trail which had probably been made by Stenomys but used by Dasyurus when prying open them. The moss covered ground was broken by numerous mossy clumps which had formed about the bases of scattered bushy rododendrons. Such clumps are to be found in the border area where there is a transition from the grasslands to the heavy mossy forest. In this transition area there are scattered Labocedrus trees as well as clumps of rododendrons and other shrubs.

Another specimen was taken at the 3600 m camp. It too was caught in a trap set in a Stenomys runway at the edge of the sub alpine forest which bordered a grassy valley near a limestone cliff. The pouch consisted of small lateral folds of the skin incompletely covering the 4 mammary glands with moderately

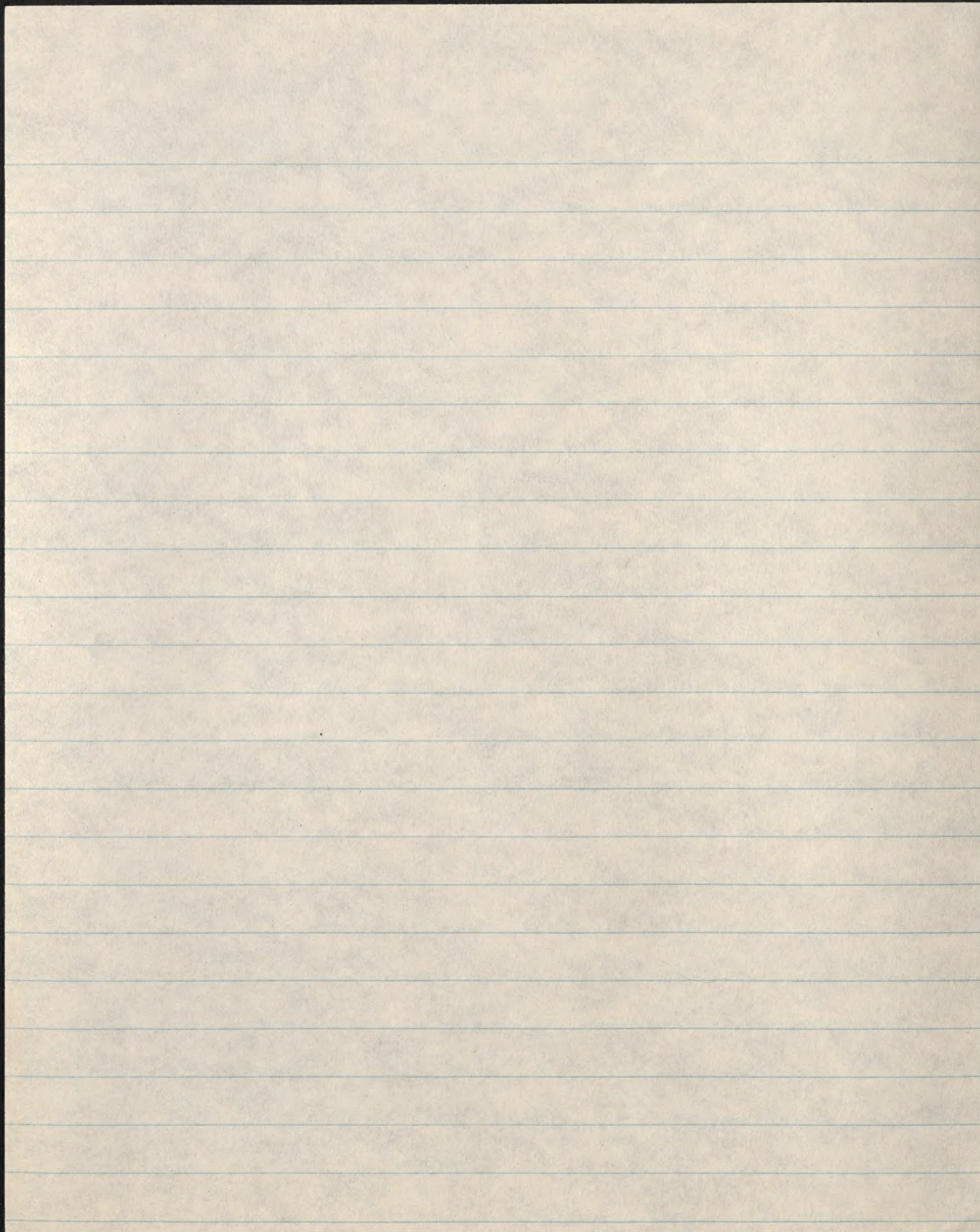


well developed, non lactating tits.

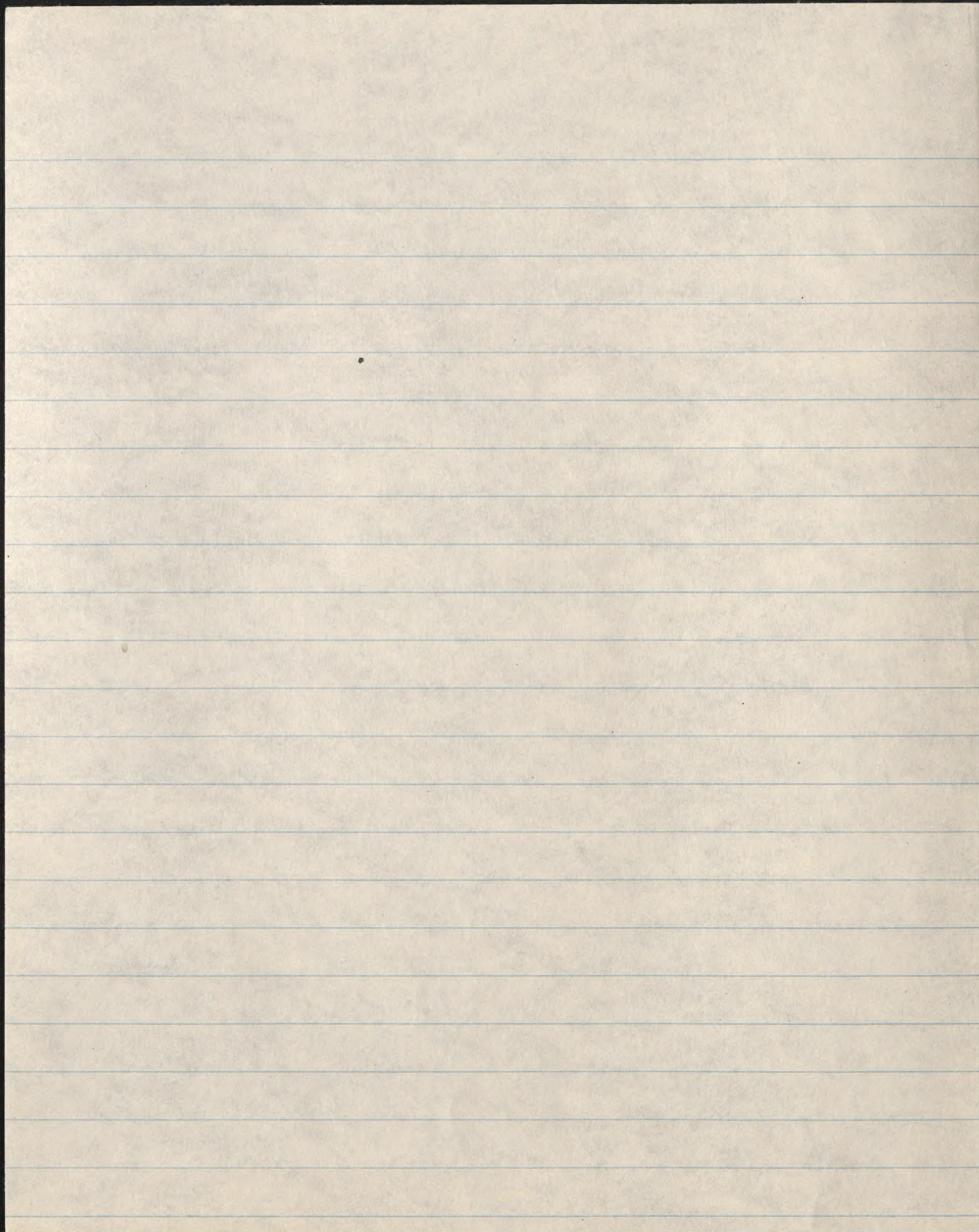
Two immature animals were taken at the 2800 m camp. One was shot while running over the littered floor of the mossy beech forest. The other was caught in a trap set on a log which formed a bridge across a small stream in the mossy forest.

Seven individuals were taken at the Bile River camp. Five were brought in by natives and 2 were trapped. One of those trapped was taken in a runway over a mossy buttress of a large Sama tree. This region was that of large trees, thin undergrowth, and litter. The other animal trapped was taken in a runway at the edge of an old log in a very thick growth of brambles and bracken. This area was an abandoned garden at the edge of the forest, which had reverted to a second growth forest.

One ♀ with 3 young were taken at the 1800 m camp. The habitat was the

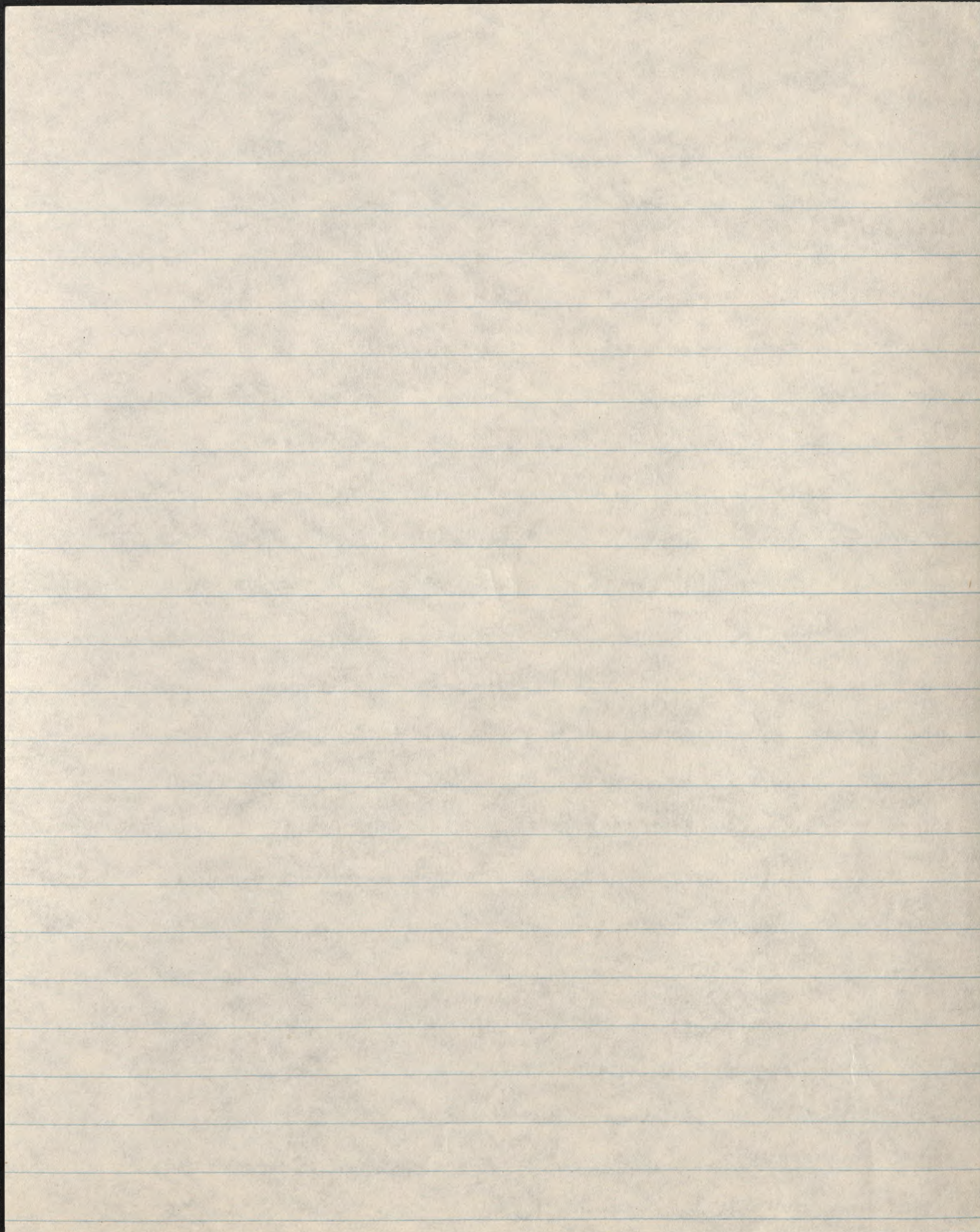


mossy forest with scattered large trees, rather
 thick second story growth, scattered clumps
 of undergrowth, and much lichen heavily
 draped with moss. It was in a trail
 over the mossy forest floor that the trap
 which caught the animal was set. The three
 young were each firmly attached to a mammary
 gland. The 4th ~~the~~ mammary was nonfunctional
 and much reduced in size. The squirming
 young remained alive and active for 4 to
 4 1/2 hours after the ♀ had been killed.
 One was pulled away from the tit by
 exerting a force of 4 or 5 lbs., the others
 were cut loose by snapping the mammary.
 The one which had been pulled free
 frequently uttered a hissing squeak similar
 to that uttered by young Phascogales. This
 squeak which could be heard by the
 human ear for a distance of several
 yards may have a survival value in
 that it would aid the ♀ in finding a
 dislodged young. The other young with



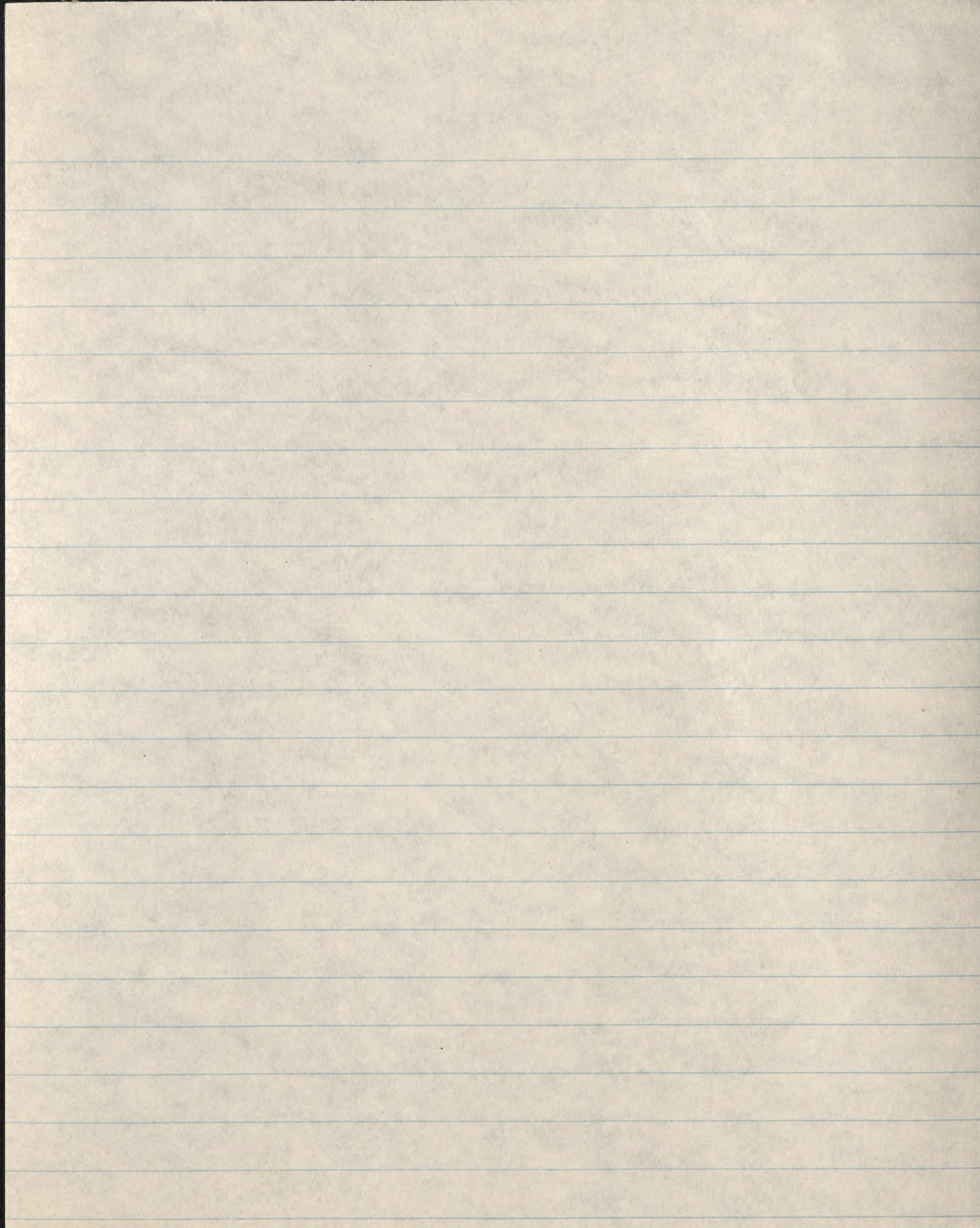
the 1st plug still in the mouth were apparently unable to squelch. These young are probably more easily detached than many young merenginals for there is no well formed pouch as is found in the Phalangium, Dorcopsis, or Echymipera. This pouch, if it can be called such consists of a ~~small~~ lateral ~~not~~ anterior fold which forms an inverted U shaped flap about the anterior $\frac{3}{4}$ of the pouch area. These folds anteriorly are 8 mm in depth and decrease posteriorly until they disappear at a point about $\frac{1}{4}$ the distance from the posterior end of the pouch area. This inverted U shaped pouch with a larger anterior fold and no poster one would indicate that this animal has a tendency toward a pouch with a posterior opening such as is found in Peroryctes and Ochymipera.

Five individuals were taken at the 1200 m camp. Three of these are juveniles probably of the same litter.



The stomach of one contained the remains of large insect grubs another the remains of insects, and the third was empty. One of these a juvenile ♀ had very small mammae concealed in the peculiar hair of the small pouch area. An adult ♀ was taken in a trap set in a small runway on a moss covered rocky hill slope with scattered undergrowth and litter in the rather open mossy forest. This ♀ had been ^{partially} eaten while in the trap apparently by another of its own kind and probably by one or more of the three above mentioned young which were later caught in the same trap. These young were probably her last litter. An adult ♂ was also taken. Habitat was the mossy forest with rather heavy moss covered litter. His stomach was empty. His penis was bifid.

Five Oryzomys were caught at the 850 m camp. A ♀ with 3 attached young were taken in a trap set in a runway in heavy undergrowth



on the bank of a river which ran through the
mossy forest. The pouch of the ♀ was similar
in most respects to the ♀s previously described
from the 1800 m camp. The following are

a list of measurements of the pouch area
taken from the freshly killed ~~specimen~~ animal.

Size of
pouch area 40×40 mm

Posterior lip of pouch area to vagina 20 mm

Posterior lip of pouch area to posterior mammae row 13 mm

Distance between anterior mammae 25 mm

Distance between posterior mammae 15 mm

Distance between anterior and posterior mammae 10 mm

Height of
anterior wall of pouch 25 mm

Height of
lateral walls of pouch 20 mm

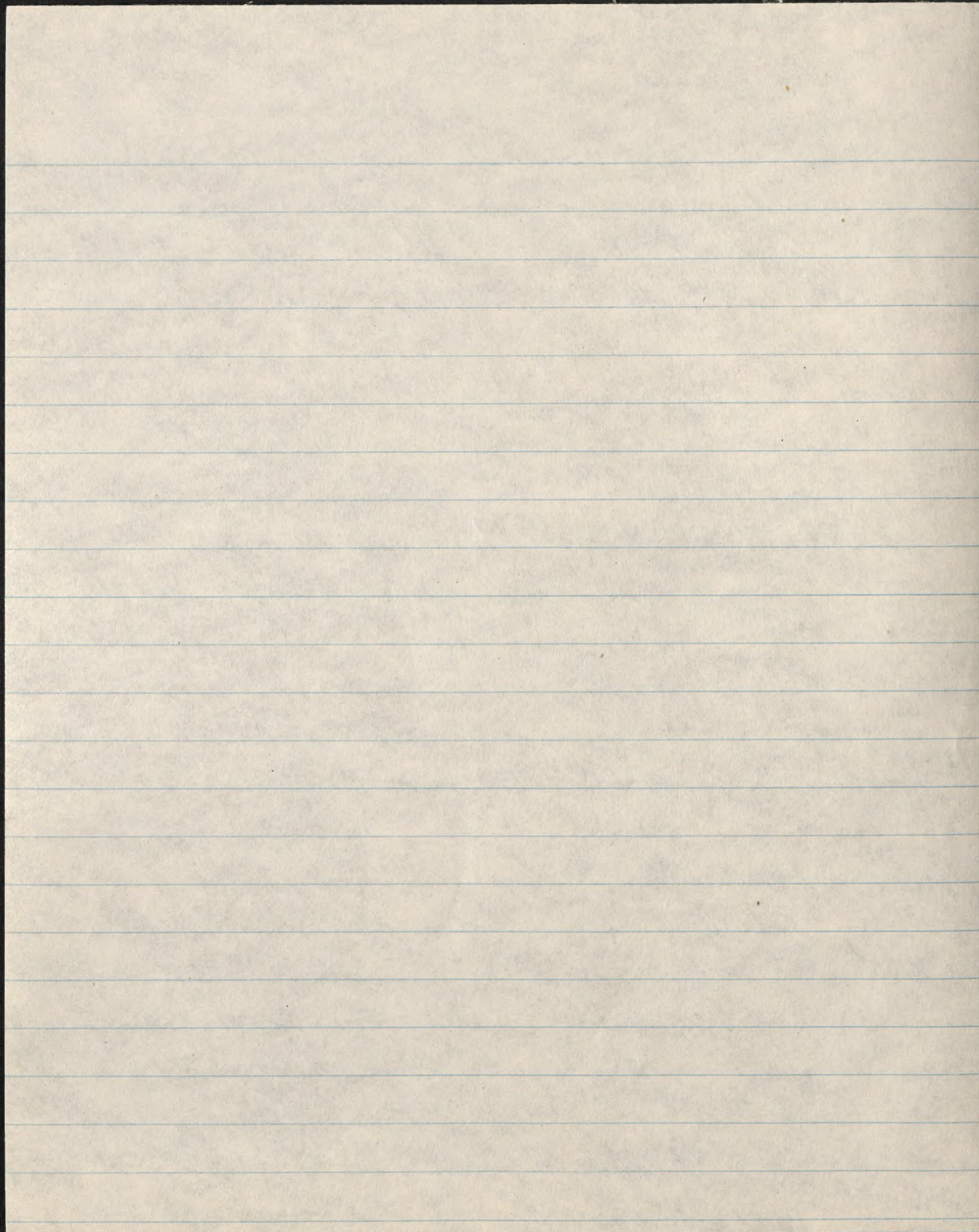
No posterior wall to pouch.

Another adult ♀ was taken at this camp
which did not carry young. Comparable
measurements of the pouch area which were
made in the field are as follows.

Size of pouch area 15×15 mm

Posterior lip of pouch area to vagina 28 mm

Posterior lip of pouch area to posterior mammae row 5 mm



Distance between anterior mammae 10 mm

Distance between posterior mammae 4 mm

Distance between anterior and posterior mammae 7 mm

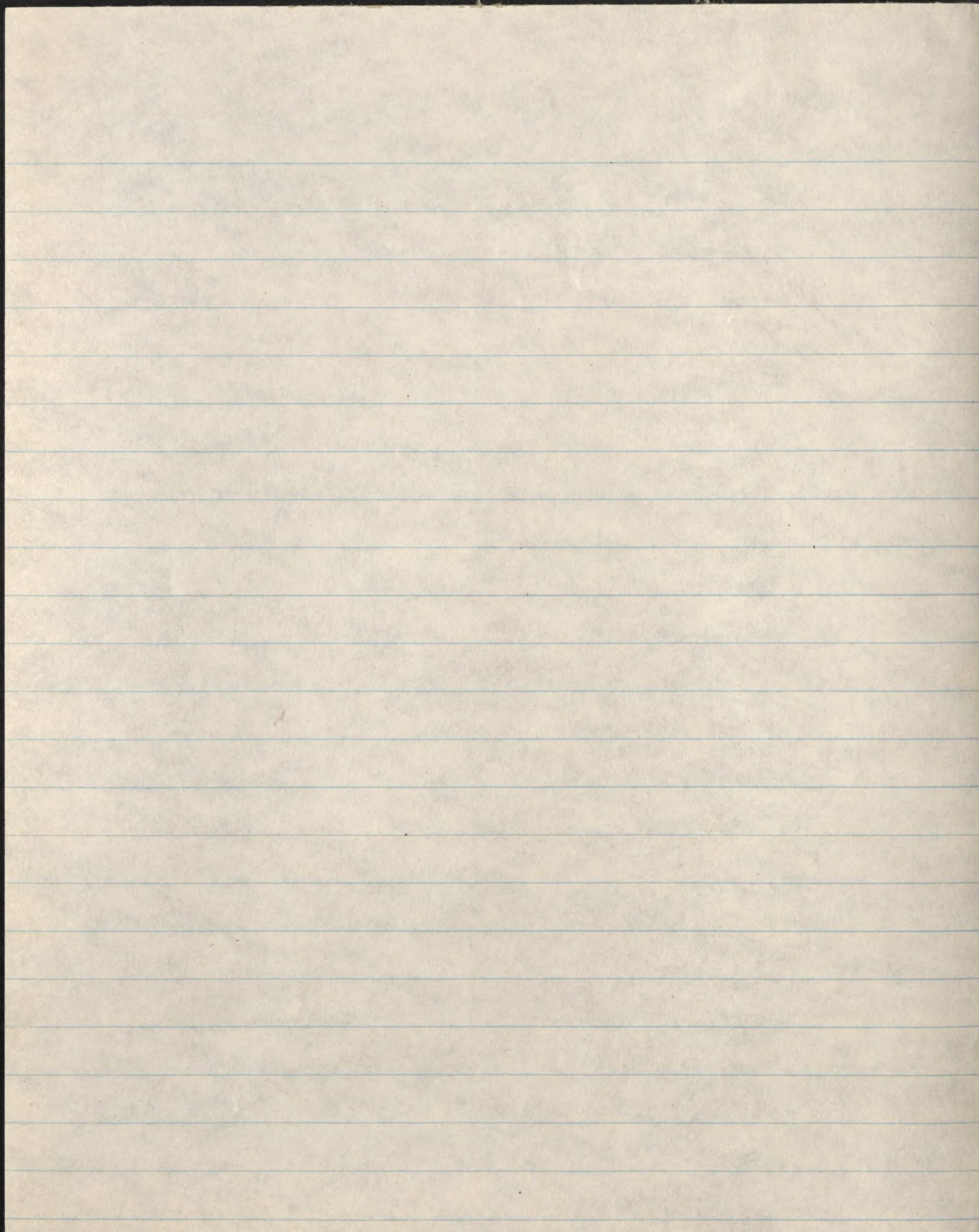
Height of anterior wall of pouch 0

Height of lateral wall of pouch 2 mm

This animal possessed the unusual number of 3 pair of tits, small, non lactating, and concealed by a rather dense stiff hair of the pouch. It appears as though the pouch area had contracted thus marring the hair in that region. Her stomach contained insect remains.

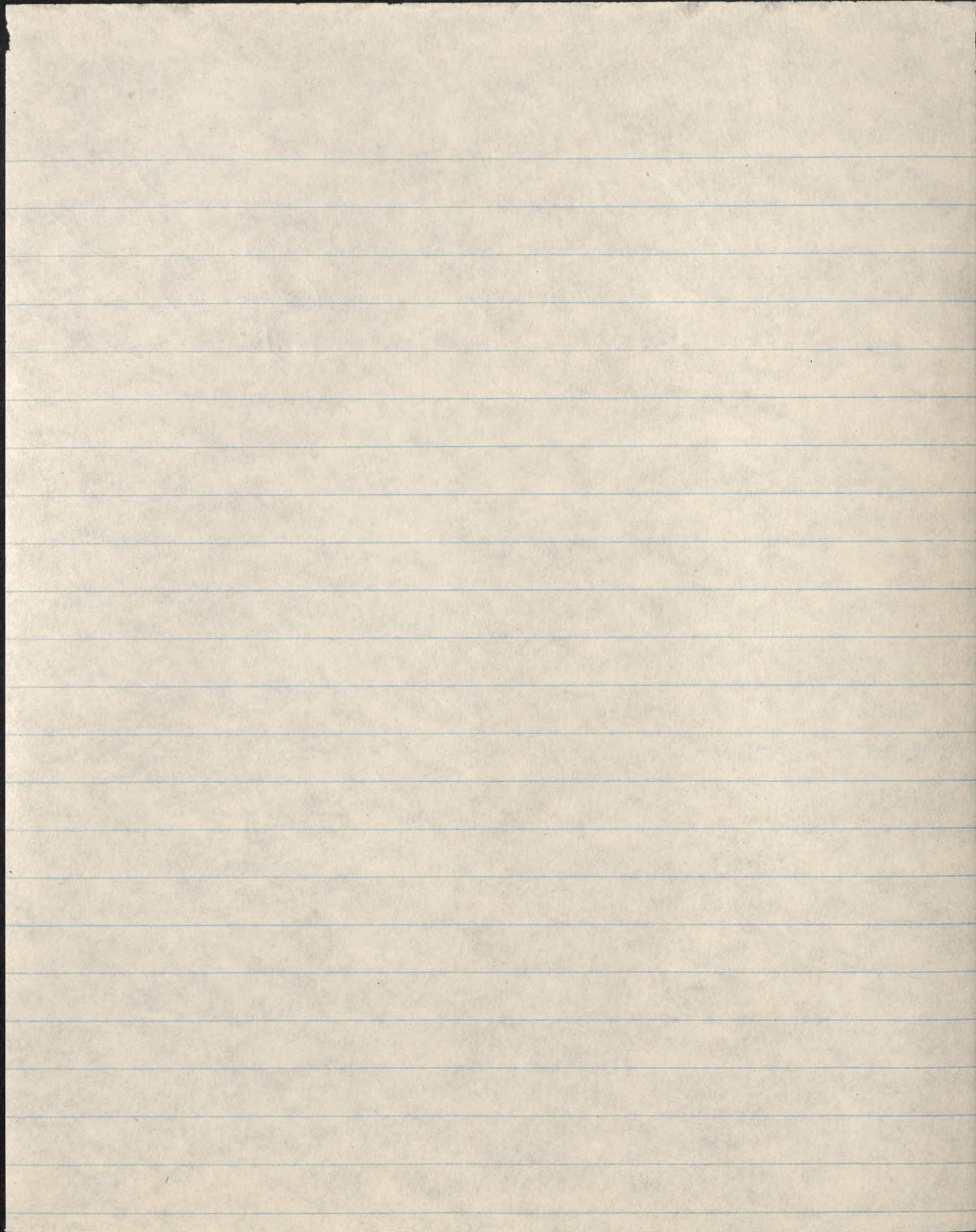
A very large ♂ was secured at the 850 m camp. It was taken on a ridge top in an open mossy forest. His stomach contained the remains of what appeared to be a young Echymipera.

Four young were taken at Bernard Camp. They were all caught in the same vicinity and are probably of the same litter. Habitat was a small protected runway beneath a log on the open



forest floor of the lowland rain forest.

Another specimen was brought in by a collector from the Cyclops (Cyclops Mountains probably near Dojo, 150 m)



Dasyurus albopunctatus. - One individual was taken near Habbema Lake Camp. The trap was set in a trail which had probably been made by Stenomys but used by Dasyurus when preying upon them. The moss covered ground was broken by numerous mossy clumps which had formed about the bases of scattered bushy rhododendrons. Such clumps are to be found in the broader areas where there is a transition from the grasslands to the heavy mossy forest. In this transition area there are scattered Libocedrus trees as well as clumps of rhododendrons and other shrubs.

Another specimen was taken at the 3600 m. camp. It, too, was caught in a trap set in a Stenomys runway at the edge of the sub-alpine forest which bordered a grassy valley near a limestone cliff. Her pouch consisted of small lateral folds of the skin incompletely covering the 4 mammary glands with moderately well developed, non-lactating tits.

Two immature animals were taken at the 2800 m. camp. One was shot while running over the littered floor of the mossy beech forest. The other was caught in a trap set on a log which formed a bridge across a small stream in the mossy forest.

Seven individuals were taken at the Bele River Camp. Five were

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brought in by natives and two were trapped. One of those trapped was taken in a runway over a mossy buttress of a large Sama tree. This region was that of large trees, thin undergrowth, and litter. The other animal trapped was taken in a runway at the edge of an old log in a very thick growth of brush and bracken. This area was an abandoned garden at the edge of the forest, which had reverted to a second growth forest.

One ♀ with 3 young was taken at the 1800 m. camp. The habitat was the mossy forest with scattered large trees, rather thick ^{story} second/growth, scattered clumps of undergrowth, and much litter heavily draped with moss. It was in a trail over the mossy forest floor that the trap which caught this animal was set. The three young were each firmly attached to a mammae. The fourth mammae was nonfunctional and much reduced in size. These squirming young remained alive and active for 4 to 4½ hours after the ♀ had been killed. One was pulled away from the tit by exerting a force of 4 to 5 lbs., the others were cut loose by snipping the mammae. The one which had been pulled loose frequently uttered a hissing squeak similar to that uttered by young Phascogeles. This squeak, which could be heard by the human ear for a distance of several yards, may have a

of which it is believed that two were trapped. One of those trapped was a
cattle in a penway over a mossy pasture of a large farm. This
region was one of large fields, with timber, and timber. The
cattle, which was caught in a penway of a large farm, was
in a very thick patch of timber. This was an accident
of nature at the edge of the forest, which was revealed to a person
known to me.

One of the young men, who was with me at the time, told me
that the mossy forest was a very thick patch of timber, and that
the cattle, which was caught in a penway of a large farm, was
in a very thick patch of timber. This was an accident
of nature at the edge of the forest, which was revealed to a person
known to me.

The young man, who was with me at the time, told me
that the mossy forest was a very thick patch of timber, and that
the cattle, which was caught in a penway of a large farm, was
in a very thick patch of timber. This was an accident
of nature at the edge of the forest, which was revealed to a person
known to me.

survival value in that it would aid the ♀ in finding a dislodged young. The other young with the tit plug still in the mouth were apparently unable to squeak. These young are probably more easily detached than many young marsupials, for there is no well formed pouch, as is found in the Phalangus, Dorcopsis, or Echymipera. This pouch, if it can be called such, consists of a lateral anterior fold which forms an inverted U shaped flap about the anterior $\frac{3}{4}$ of the pouch area. These folds anteriorly are 8 mm. in depth and decrease posteriorly until they disappear at a point about $\frac{1}{4}$ the distance from the posterior end of the pouch area. This inverted U shaped pouch with a larger anterior fold and no posterior one would indicate that this animal has a tendency toward a pouch with a posterior opening such as is found in Peroryctis and Echymipera.

Five individuals were taken at the 1200 m. camp. Three of these were juveniles, probably of the same litter. The stomach of one contained the remains of large insect grubs, another the remains of insects, and the third was empty. One of these, a juvenile ♀, had very small mammae concealed in the peculiar hair of the small pouch area. An adult ♀ was taken in a trap set in a small runway on a moss covered rocky hill slope with scattered undergrowth and litter in the rather open mossy forest. This ♀ had been partially eaten while in the trap, apparently by another

1. The first value in the list is 10, which is the value of the variable 'x'.

2. The second value in the list is 20, which is the value of the variable 'y'.

3. The third value in the list is 30, which is the value of the variable 'z'.

4. The fourth value in the list is 40, which is the value of the variable 'w'.

5. The fifth value in the list is 50, which is the value of the variable 'v'.

6. The sixth value in the list is 60, which is the value of the variable 'u'.

7. The seventh value in the list is 70, which is the value of the variable 't'.

8. The eighth value in the list is 80, which is the value of the variable 's'.

9. The ninth value in the list is 90, which is the value of the variable 'r'.

10. The tenth value in the list is 100, which is the value of the variable 'q'.

11. The eleventh value in the list is 110, which is the value of the variable 'p'.

12. The twelfth value in the list is 120, which is the value of the variable 'o'.

13. The thirteenth value in the list is 130, which is the value of the variable 'n'.

14. The fourteenth value in the list is 140, which is the value of the variable 'm'.

15. The fifteenth value in the list is 150, which is the value of the variable 'l'.

16. The sixteenth value in the list is 160, which is the value of the variable 'k'.

17. The seventeenth value in the list is 170, which is the value of the variable 'j'.

18. The eighteenth value in the list is 180, which is the value of the variable 'i'.

19. The nineteenth value in the list is 190, which is the value of the variable 'h'.

20. The twentieth value in the list is 200, which is the value of the variable 'g'.

of its own kind and probably by one or more of the above mentioned young which were later caught in the same trap. These young were probably the same litter. An adult ♂ was also taken. Habitat was the mossy forest with rather heavy moss covered litter. His stomach was empty. Its penis was bi

Five Dasyurus were caught at the 850 m. camp. A ♀ with 3 attached young was taken in a trap in a runway in heavy undergrowth on the bank of a river which ran through the mossy forest. The pouch of the ♀ was similar in most respects to that of the ♀ previously described from the 1800 m. camp. The following is a list of measurements of the pouch area taken from the freshly killed animal:

Size pouch area 40 X 40 mm.

Posterior lip of pouch area to vagina 20 mm.

Posterior lip of pouch area to posterior mammae row 13 mm.

Distance between anterior mammae 25 mm.

Distance between posterior mammae 15 mm.

Distance between anterior and posterior mammae ~~22~~ 10 mm.

Height of anterior wall of pouch 25 mm.

Height of lateral walls of pouch 20 mm.

No posterior wall to pouch.

of the same kind and probably of the same age as the above mentioned

young animal were found again in the same trap. These young were brought

to the same place. An adult was also taken. It had a very

different appearance from the young ones. Its head was

very large and

very long. It was found in the same trap. It was

very different from the young ones. It was

very different from the young ones. It was

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Another adult ♀ was taken at this camp which did not carry young.

Comparable measurements of the pouch area which were made in the field are as follows:

Size of pouch area 15 x 15 mm.

Posterior lip of pouch area to vagina 28 mm.

Posterior lip of pouch area to posterior mammae row 5 mm.

Distance between anterior mammae 10 mm.

Distance between posterior mammae 4 mm.

Distance between anterior and posterior mammae 7 mm.

Height of anterior wall of pouch 0

Height of lateral walls of pouch 2 mm.

This animal possessed the unusual number of 3 pair of tits, small, none lactating, and concealed by rather dense stiff hair of the pouch. It appears as though the pouch area had contracted, thus massing the hair in that region. Her stomach contained insect remains.

A very large ♂ was snared at the 850 m. camp. It was taken on a ridge top in an open mossy forest/ His stomach contained the remains of what appeared to be a young Echymipera.

Four young were taken at Bernhard Camp. They were all caught in the same vicinity and were probably of the same litter. Habitat was

a small protected runway beneath a log on the open forest floor of the lowland rain forest.

Another specimen was brought in by a collector from the Cyclops (Cyclops Mountains probably near Dojo, 150 m.).

Small quantities of the material were found in the open forest near the

boundary of the forest.

Another specimen was obtained in the collection from the forest

(collected during the night, 1944).

Wm. B. Richardson
1938

Oaryurus

Aug 17 Lake Hattuma, Netherlands New Guinea 3225 m.

1 in 375 traps. This individual was taken in a trap set about 1 kilometer north of camp on the east slope of the ridge at the head of the grassy valley. The trap was set in a trail between the moss clumps which are characteristic about the base of low rhododendron shrubs in that region. Here there were scattered *Libocedrus* and some 10 ft away was a heavy brush thicket with a mossy undergrowth. The most characteristic thing about the immediate vicinity was the open low ^{small} bushy patches with moss clumps about the base and a mossy inter ground cover.

Sept. 17 2 km N^o Wilhelminapolder Netherlands New Guinea 3560m
2225m

¹ in 151 rat traps. Brought in by collector who said it was taken in trap set out in small runway through grass at the outer edge of the oak-*Liquidambar* forest. The 4 tits were all equally well developed (No. 10). The period is nothing more than the ^{normal} sexual phase of skin - inconspicuously covering the mammary glands.

Sept. 15. - I saw the type in which the above animal was taken. It was set in a small runway along the outer edge of the sub-alpine forest near the base of the limestone cliff at the south end of the valley.

Oct 29 9 km NE Lake Habbema, Netherlands New Guinea 2800m

2: 1 shot by collector other ^{one} 29 shot today. The one shot was taken yesterday afternoon by Dyche who said that it was running over the forest floor. It was taken to the south on the hill slope. The one trapped was brought in by collector who said they was out on top of ^{small} big over stream. Neither of the two showed signs of having young (immature animals)

Nov 14 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 ^{juv.} brought in by natives

Nov 18 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 ^{ad.} brought in by natives

Nov 23 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 ^{ad.} in 206 net traps. The trap was set off
the base of a large screw tree in a runway over
the mossy buttress. The region was that of large
trees, thin undergrowth, and litter.

Nov 25 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 ^{juv.} in 206 net traps. Taken in trap ^{in a runway}
the edge of an old log, among a very thick growth of
bush and branches. The area is that of a standard
garden clearing, bordering the forest, which should be
considered second growth waiting to forest.

Nov 27 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 ^{ad.} brought in by natives. (Skin being made up)

Nov 29 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 ^{juv.} brought in by natives

Dec 3 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives. (Skin being made up)

Jan. 19 15 km SW Bernhard Camp, Inderburg R. Netherlands New Guinea 1800 m.
1 ^{ad.} in 28 steel traps. Brought in by
collectors. Said to have been taken in runway
over forest floor. Mossy forest conditions with
scattered large trees, rather thick second story growth
and scattered clumps of undergrowth. Litter is common.
There were 4 tits to 3 of which a young each
was attached. The 4th tit was non-functional
and much reduced in size. The young remained
alive and firmly attached to the tits 4 or 4 1/2
hours after the animal ~~was~~ ♀ had been killed.
One was pulled away from the tit by exerting

Oosyornis

a force of 4 or 5 lbs. The other two were cut loose by simply cutting the tit. The one which was pulled free frequently uttered a hissing squeak, similar to freed young Phascogales, the other 2 remained silent. The plug which remained in the mouth of the 2 probably prevented them uttering squeaks although they were in apparently the same state of misery. The fact that the freed young from the tit uttered a sound may be of survival value to the young. Certainly the noise uttered even to human ear could be heard several yards distance. I am wondering if the young are not unconsciously detached from the tit for the power of the mother is of little or no value as far as the protection of the young are concerned. It consists of a fold of skin some 8 cm. in depth anteriorly ~~and the lateral folds~~ extending laterally posteriorly ^{terminating in} a distance of about $\frac{3}{4}$ the pouch area. This would indicate that the pouch has a tendency toward a posterior opening but the folds of skin is the only indication of ~~seal~~ ^{indication of seal} rather than a true pouch. [See April 1st notes]

Feb. 15 6 km SW Bernhard Camp Ikenburg R. Netherlands New Guinea 1200 m.

1 ^{juv.} in 224 rat traps. This individual taken in trap set ~~in~~ in small runway at the edge of a stream. Habitat the ^{more wooded} rocky hillside with scattered undergrowth & litter. The individual had been eaten while in the trap apparently by another of its own kind. There are no other animals here except dog with the ability to bite through the skull. The fleshy parts were eaten but the entrails, liver, stomach etc ~~was~~ remained.

Feb. 18

1 ^{juv.} in 223 rat traps. Brought in by collectors. This juvenile had in stomach remains of large grubs, that is insect larvae.

Feb. 20

1 ^{juv.} in 223 rat traps. Brought in by collectors. The pouch area and bits of this young & slightly differentiated and very small. Stomach contained insect remains.

Feb. 23 6 Km SW Bernard Camp Shimbung River Netherlands New Guinea 1200m.

1 in ^{juv} 221 traps. Brought in by collector.

Feb. 28 1 in 17 steel traps.

Stomach empty. Penis is bifid ~~and~~ ca was one of the species of *Phascogale*. It was slightly larger but proportions the same.

Apr. 1 4 Km SW Bernard Camp Shimbung River Netherlands New Guinea 850m.

4^(juv) in 207 rat traps. Brought in by collector.

Taken in trap set in small runway in the undergrowth of the river bank at the lower edge of the flood plain. The pouch contained 3 juveniles (see alacubus). This pouch shows definitely that the pouch opening tends to be ^{directed} posterior rather than anterior ~~as I had previously thought~~.

The pouch opening is the same size as the pouch area but with anterior walls ~~being~~ forming a protective flap.

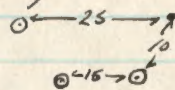
Posterior edge of pouch ^{area} to vagina 20 mm.

Posterior edge of pouch ^{area} to posterior tit row 13 mm.

Pouch area 40 x 40 mm.

Opening of pouch 40 mm. diam.

Diagram of the \odot marks functional ones.



The posterior walls of pouch.

Lateral walls 20 mm.

Anterior wall 25 mm. When laid down it reaches the posterior row of tit.

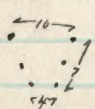
The food in stomach.

Apr. 5 1 in 90.33 snags. Brought in by collector.

Posterior edge of ~~pouch~~ pouch area to vagina 28 mm.

Posterior edge of pouch area to posterior tit 5

Pouch area 15 x 15 mm.



This is a pair of the small, non lactating, covered by the dense, rather stiff hair of the pouch area. The pouch area has very small lateral wall, not over 2 mm in height and no anterior or posterior wall. There is concentration of hair on

Dasyurus

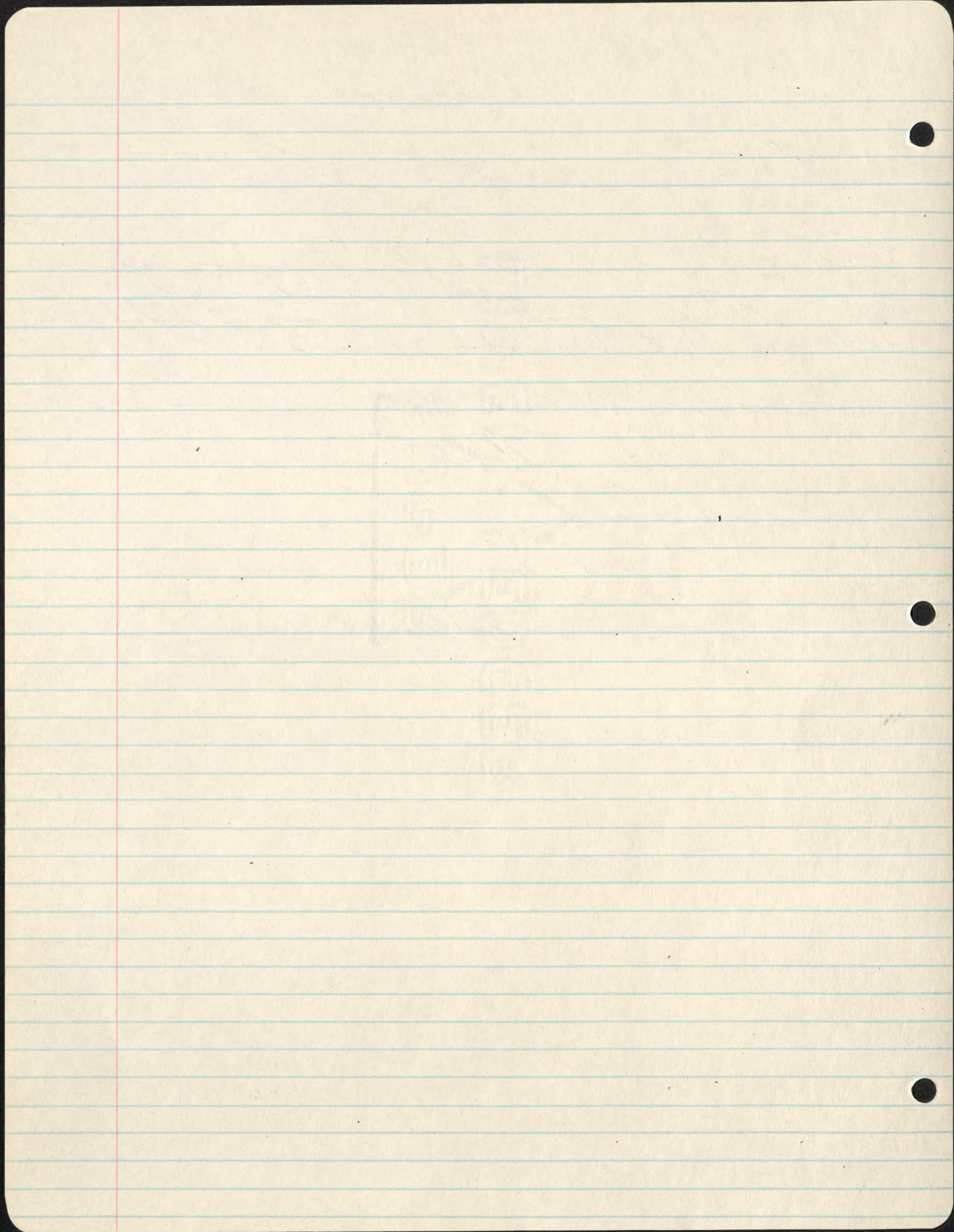
the pouch area as if ~~the~~ the area had contracted
and thus concentrating the hair. Stomach contained
remains of insects. Ovaries enlarged.

Apr. 7 4 km. SW Bernhard Camp, Inderburg R., Netherlands New Guinea 850 m.
1 in 1875 spars. Brought in by
collectors. Stomach contained remains of what
appeared to be a young *Echymipera*. ♂ very large.

Apr. 16 Bernhard Camp, Inderburg R., Netherlands New Guinea 75 m.
1 in 259 rat traps. Taken in a small
protected runway beneath a small log in open
forest of lower mountain slopes above
flood plane.

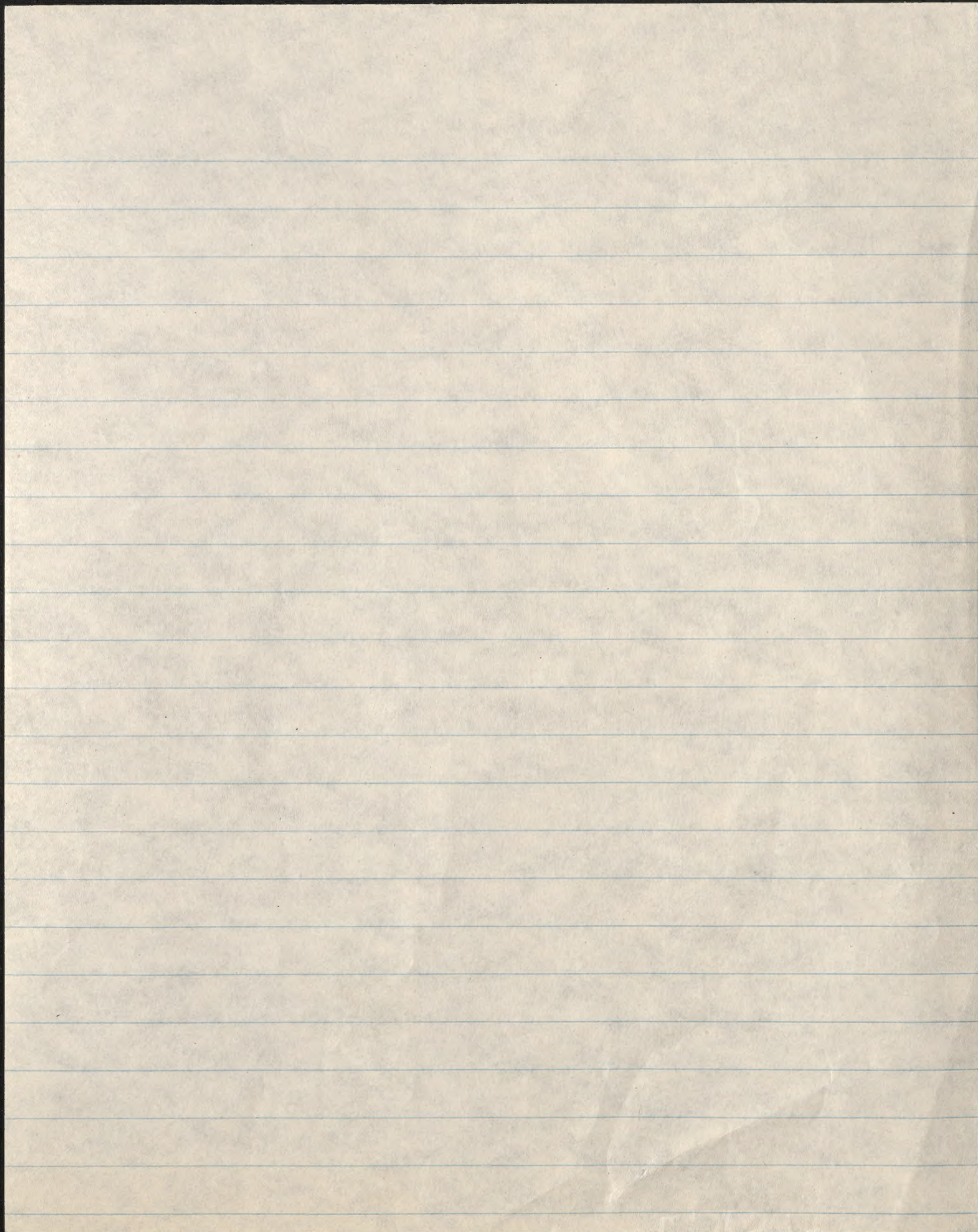
Apr. 17 3 in 259 rat traps. Taken in same vicinity
as the individual taken yesterday. Believe that
they are of the same litter. No pouch development of female.
Pouch area distinguishable due to difference in
hair.

1 specimen taken from Cyclops Mts by Chis



Dendrolagus finschi - A number of individuals were purchased the nation of Hollandia. According to them these animals were found not uncommonly in large of the heavy rain forest. Several were brought in alive and retained in large cages from June 1938 to May 1939. At this time 5 of them were crated and then traveled with me to Java where one was deposited in the Soerabaja Zoological Gardens, one to Australia where one was given to Taronga Park, and the other three were brought to the National Zoological Gardens in Washington, D.C. It was from these captive animals that the following observations were made.

Locomotion - Although the hind limbs are smaller and the front limbs larger than that of a kangaroo locomotion over the ground was of the same type. Hopping about on the hind feet with the front feet held against their chest only occasionally putting them down when moving very slowly.

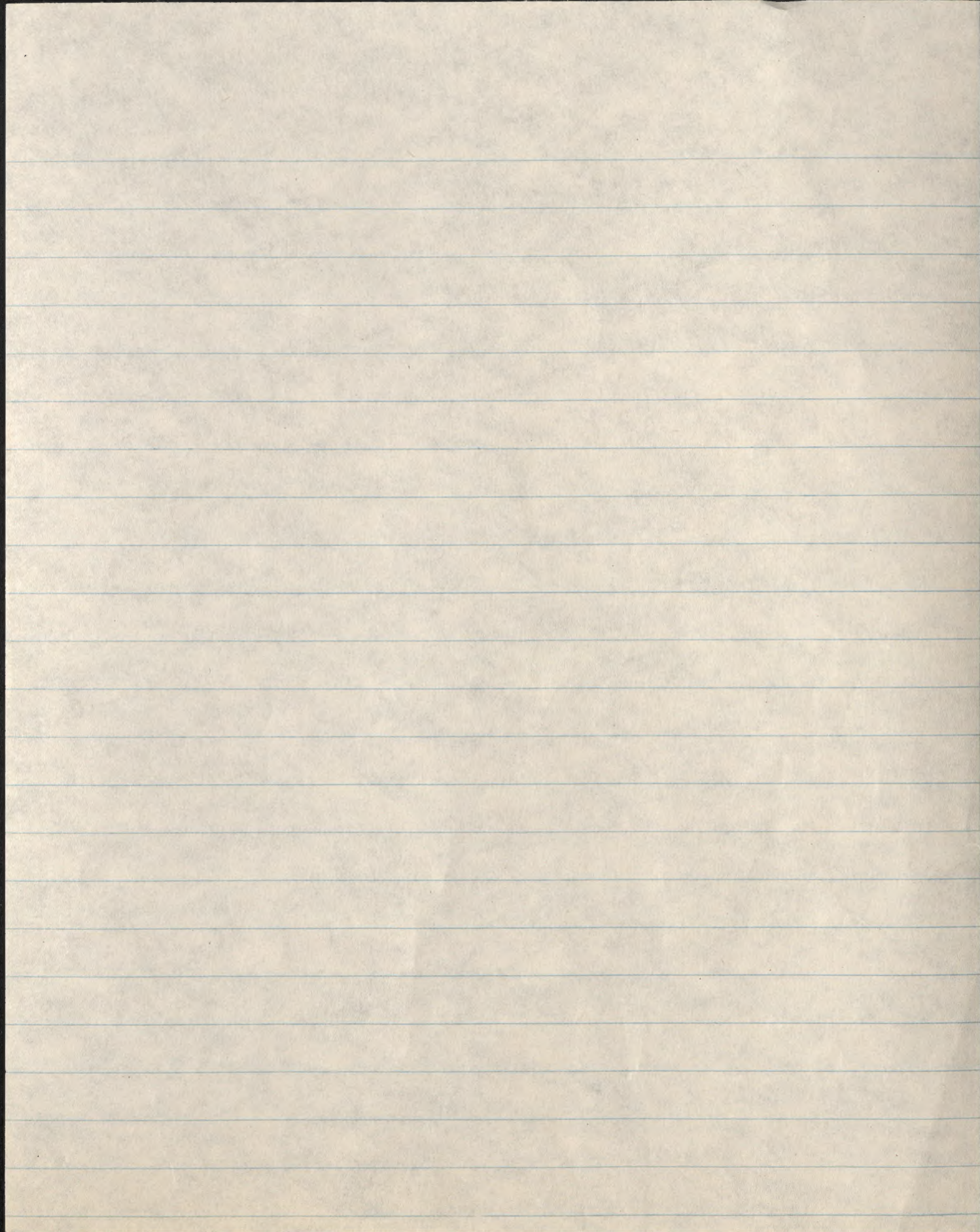


or to terminate a series of rapid hops. While in motion the tail is held off the ground and seems to serve as an organ of balance. In climbing up a pole the animal uses a hopping gait.

The hind feet are toed outward so that the inner fleshy part of the ^{long} rough sole pad bears the weight of the animal rather than the claws of the hind feet. The ^{front feet join} climbing a pole, a foot in diameter or less, are used opposing each in a clasping fashion. In scaling trees too large for clasping the long claws are held rigidly in a hook-like position in relation to the fore and thus catching onto irregularities in the bark.

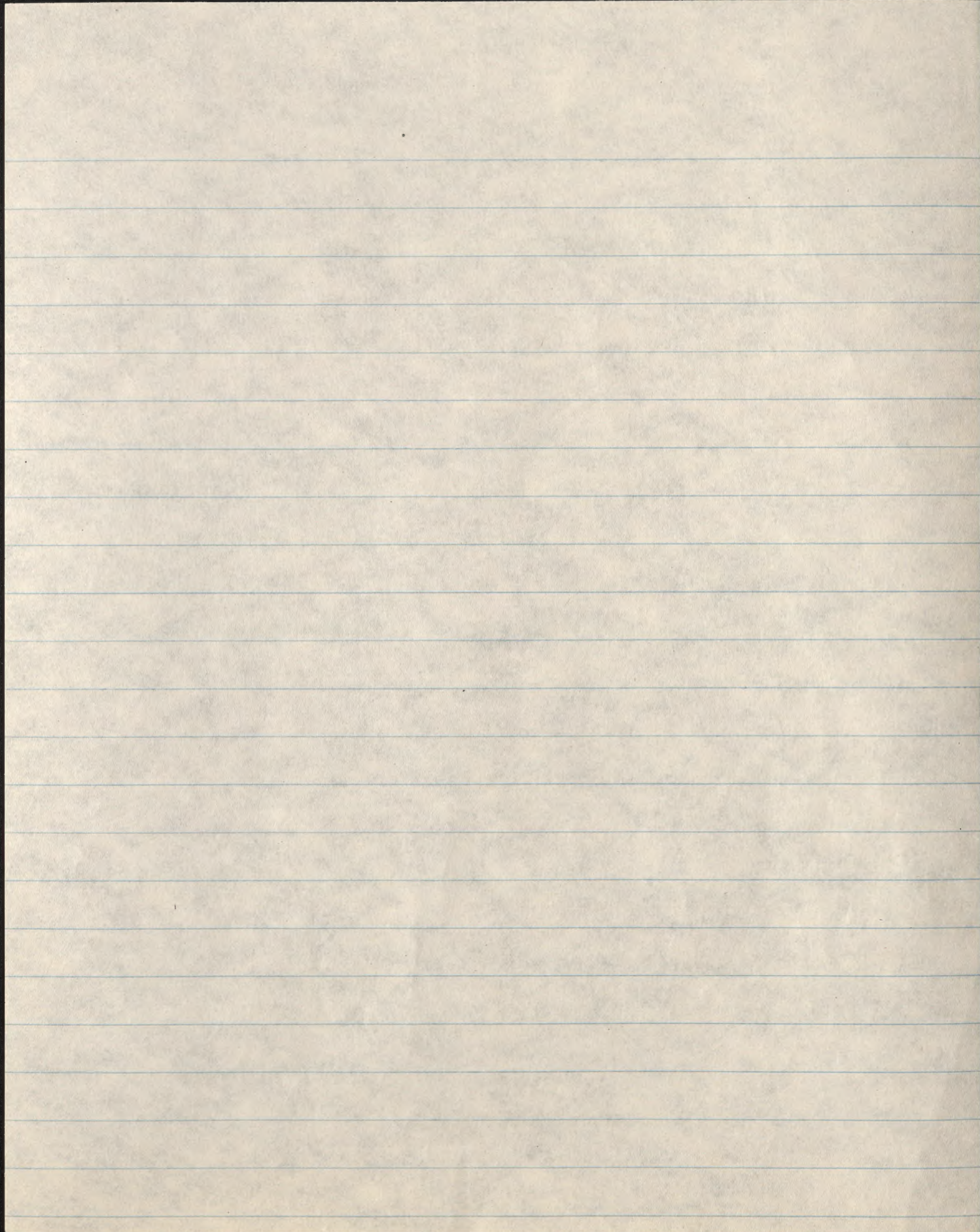
The digits are not opposable in either the front feet or hind feet as they are with Phalangers. Progressing along a horizontal cage pole of (2"-3") diameter was accomplished with a crawling type utilizing all four feet.

When the end of such a pole was reached rather than turn about it would walk



backwards along the stil with a shuffling motion. Although they were able to maintain their balance while turning about they seemed to prefer the backward step to turning on a small pole. On descending a pole they do so with shielding legs of the hind feet while the front feet cling as they lower themselves hand over hand.

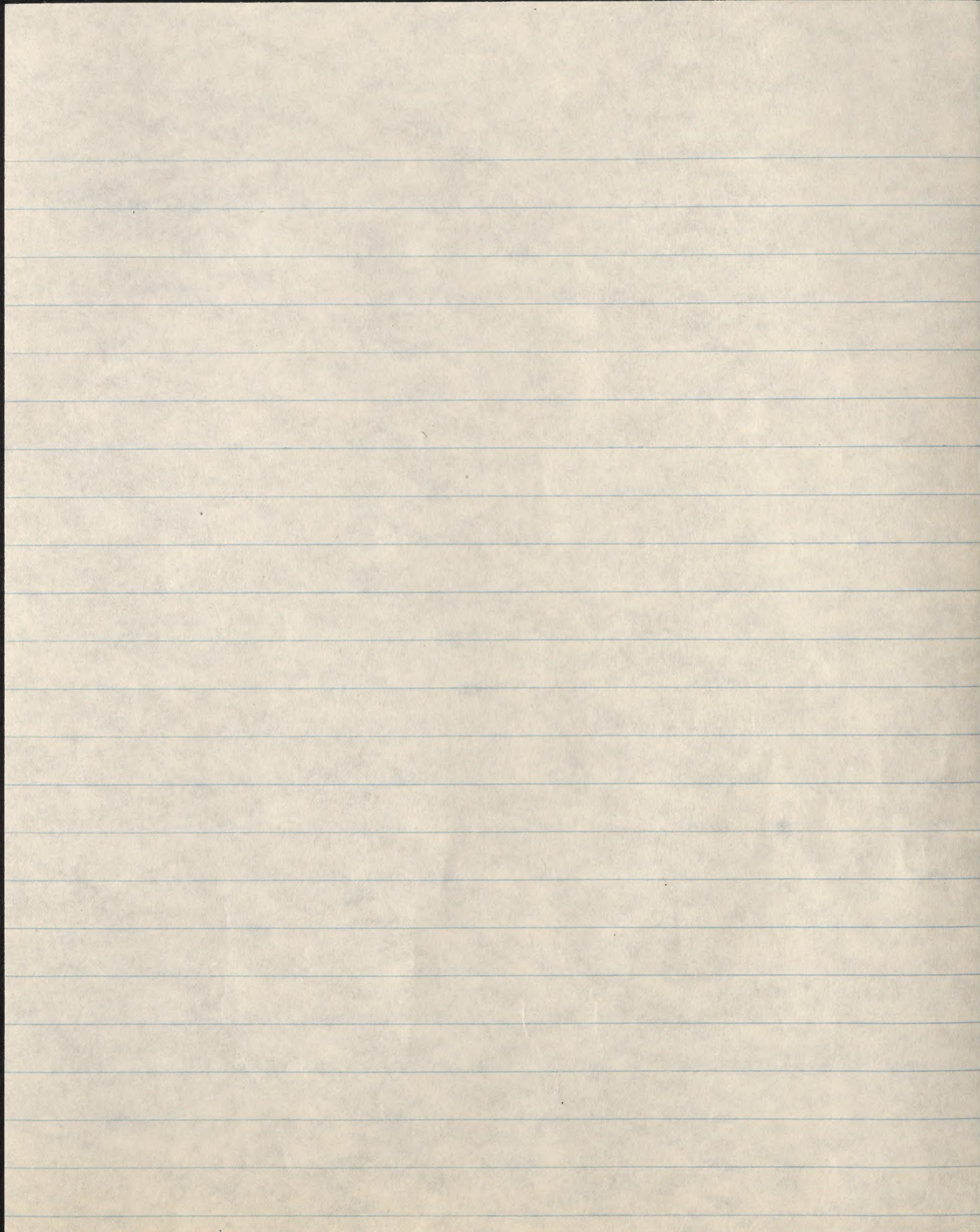
Food:— Their cage food which they have been fed at different times is as follows: Bananas with a preference for their skin; sweet potatoes with also a preference for the skin; sweet potato greens; papaya are eaten occasionally; apples; young coconut meat and inner husk; leaves of several wild herbaceous plants and grasses; ~~and~~ cultivated vegetables such as carrots, lettuce, turneps, spinach etc.; and developed quite a passion for bread butter and jam. They seemed to be pure vegetarians although meat of various sorts were given them on different occasions it remained uneaten. Eating was accomplished



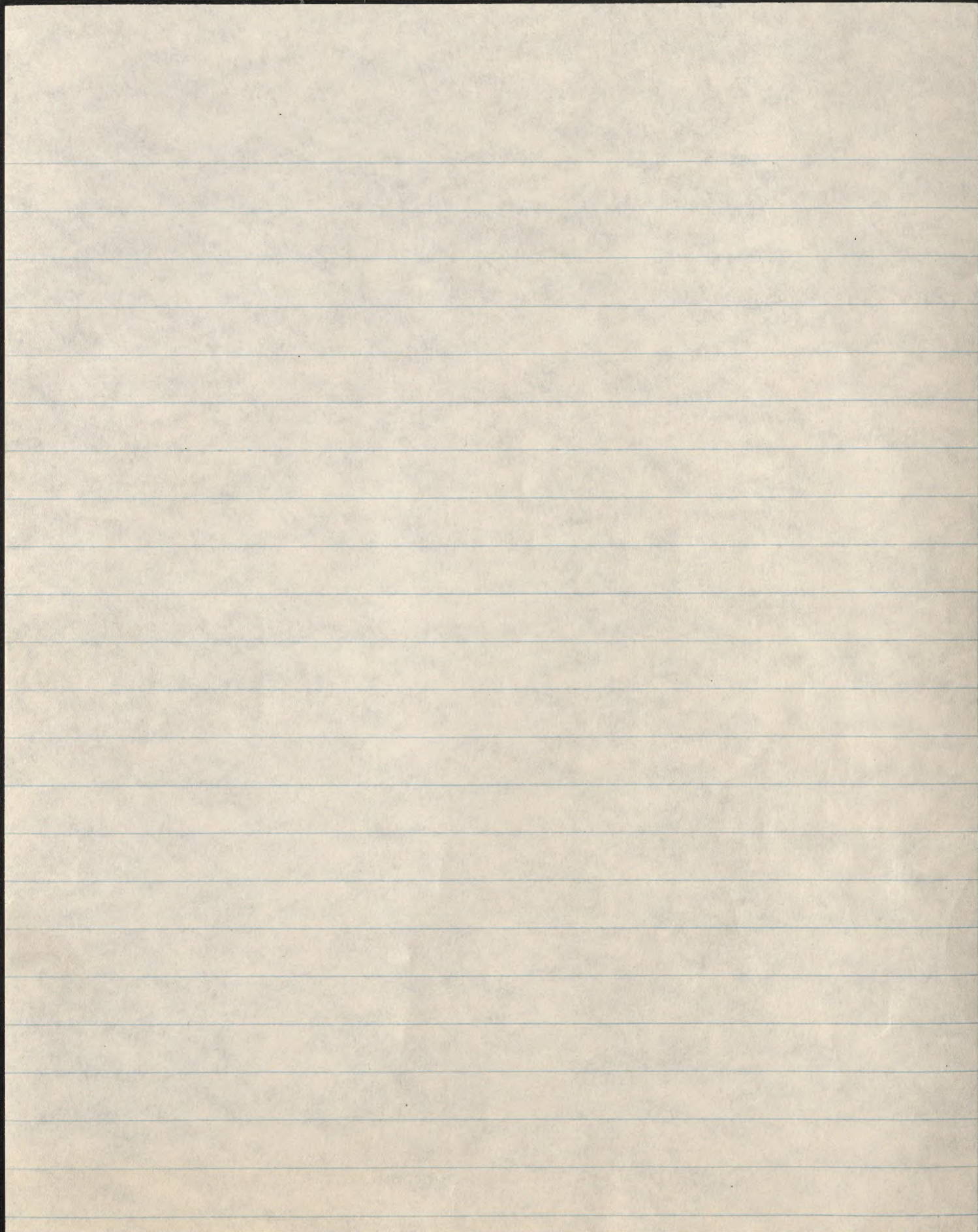
by holding the food between the front paws, much as all Phalanger does; shoving the lower incisors into the food, and then biting off a piece by bringing the upper incisors down against the lower ones. When eating grain often a single stalk will be left hanging out of the corner of their mouth as mastication slowly grinds it up.

Voices - was heard only when injured during their rough play with each other. This sound was a low airy squeak repeated frequently. When being raised off of the ground they would sometimes utter a 'hee' which was little more than air passing through the mouth.

Activities - The animals which were housed together, sometimes as many as three or four in a single cage, would play, eat, and sleep together without apparent antagonism. Their periods of greatest activity were during the morning and again in the evening. They were usually found sleeping



during the mid day as well as during the
darker part of the night. Most of their
time was spent ^{on shelves} near the top of the cage,
coming down only to eat or drink.



Dendrolagus firschi. - A number of individuals were purchased from the natives of Hollandia. According to them these animals were found not uncommonly in large of the heavy rain forest. Several were brought in alive and retained in large cages from June, 1938, to May, 1939. At the time 5 of them were crated and thus traveled with me to Java, where one was deposited in the Soerabaga Zoological Gardens, on to Australia, where one was given to Tanonga Park, and the other three were brought to the National Zoological Gardens in Washington, D.C. It was from these captive animals that the following observations were made.

Locomotion. - Although the hind limbs are smaller and the front limbs are larger than those of a kangaroo, locomotion over the ground was of the same type. Hopping about on the hind feet with the front feet held against their chest, only occasionally putting them down when moving very slowly, or to terminate a series of rapid hops. While in motion the tail is held off the ground and seems to serve as an organ of balance. In climbing up a pole these animals use a hopping gait. The hind feet are toed outward so that the inner fleshy

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part of the large rough sole pad bears the weight of the animal rather than the claws of the hind feet. The front feet in climbing a pole a foot in diameter or less are used opposing each other in a clasping fashion. In scaling trees too large for clasping, the large claws are held rigidly in a hook-like position in relation to the foot, thus catching into irregularities in the bark. The digits are not opposable in either the front feet or hind feet as they are with Phalangers. Progressing ~~ing~~ along a horizontal cage pole of 2"-3" diameter was accomplished with a crawling hop, utilizing all four feet. When the end of such a pole was reached, rather than turn about, it would walk backward along the stick with a shuffling motion. Although they were able to maintain their balance while turning about, they seemed to prefer this backward shuffle to turning on a small pole. On descending a pole they do so with sliding hops of the hind feet, while the front feet clasp as they lower themselves hand over hand.

Food. - Their cage food which they have been fed at different times is as follows: bananas, with a preference for their skin; sweet potatoes, also with a preference for their skin; sweet potato

part of the large rough hole the rear of the animal
rather than the side of the hind feet. The front feet in climbing
are held in a manner or feet are used opposing each other in
a climbing fashion. In scaling trees too large for climbing, the
large claws are held rigidly in a hook-like position in relation to
the foot, thus converting into irregularities and hooks. The claws
are not opposite in either the front and hind feet as they are
with managers. Verticality is horizontal. The hind feet
of managers are horizontal with a vertical foot. The hind
feet. When the end of each foot is raised, the hind feet are
it would walk backward and the hind feet are vertical. The
though they are able to maintain their balance while standing, they
they seem to prefer this backward manner to walking on a small
pole. On ascending a pole they do not climb, but of the hind
feet, while the front feet grasp it. They lower themselves down over
hind.
foot. Their legs are vertical when they move backward or forward
which is a vertical manner, with a vertical foot. The hind
feet, which are vertical in position for their entire length.

greens; papaga are eaten occasionally; apples; young coconut meat and inner husk; leaves of several wild herbaceous plants and grasses; cultivated vegetables, such as carrots, lettuce, turnips, spinach, etc., and developed quite a passion for bread, butter and jam. They seemed to be pure vegetarians; although meat of various sorts was given them on different occasions, it remained uneaten. Eating was accomplished by holding the food between the front paws, much as the Phalanger does; shoving the lower incisors into the food, and then biting off a piece by bringing down the upper incisors against the lower ones. When eating grass often a single stalk will be left hanging out of the corner of their mouth as mastication slowly grinds it up.

Voice. - This was heard only when injured during their rough play with each other. The sound was a low airy squeak, repeated frequently. When being raised off the ground they would sometimes utter a "hee" which was little more than air passing through the mouth.

Activities. - The animals which were housed together, sometimes as many as 3 or 4 in a single cage, would play, eat and sleep together without apparent antagonism. Their periods of greatest

General remarks on the general appearance of the country.

The country is generally flat, with some low hills in the north.

The climate is generally warm, with some cold spells in the winter.

The soil is generally fertile, with some sandy patches in the south.

The vegetation is generally dense, with some open fields in the north.

The population is generally small, with some larger towns in the south.

The principal occupations are agriculture and stock raising.

The principal products are wheat, corn, and cotton.

The principal cities are New York, Philadelphia, and Baltimore.

The principal rivers are the Hudson, Delaware, and Chesapeake.

The principal ports are New York, Philadelphia, and Baltimore.

The principal industries are agriculture and stock raising.

The principal occupations are agriculture and stock raising.

The principal products are wheat, corn, and cotton.

The principal cities are New York, Philadelphia, and Baltimore.

General.

The principal occupations are agriculture and stock raising.

The principal products are wheat, corn, and cotton.

The principal cities are New York, Philadelphia, and Baltimore.

activity were during the morning and again in the evening. They were usually found sleeping during the midday, as well as during the darker part of the night. Most of their time was spent on shelves near the top of the cage, coming down only to eat or drink.

Wm B. Richardson
1938

Dendrolagus

June 24 Hollandia, Netherlands New Guinea

Purchased the tail of one of these beasts from a native from Ingos. According to his story it was caught on the main land, in the large jungle (Main forest) south of his company Ingos.

June 30 Hollandia, Netherlands New Guinea

Purchased another tail from a native from Ingos. The animal was probably taken in or near the same forest as the animal above (June 24).

July 3 Hollandia, Netherlands New Guinea


Purchased half grown young, one ♂ and one ♀, from Mr. Keiser a planter living some 15 kilometers south of Hollandia (lives on the southern shore of the inner bay). These two animals will be kept alive for study.

July 18 Hollandia, Netherlands New Guinea

The following is the life history notes accumulated during the past 15 days on the two tame Dendrolagus which were purchased from Mr. Keiser.

Coloration and markings - There is no difference in the coloration of the ^{sub-adult} juvenile ♂ and ♀ with the exception of the overcoat of brownish red which is more apparent on the ♂. The general color is a dark grizzled gray which is almost black ^{about the head} on the back and face and shades to a light gray on the dorsal surface. The face is black including the muzzle, the anterior part of the lower jaw, about the eyes and extending backward to the mid point between the eyes and ears where the back meets a lighter gray stripe. There is a few gray hairs in front of the eyes and upper muzzle. The ears are black inside and out. Between the ears and running forward to the lighter gray band above the mouth is a dark grizzled gray (continuation of shoulder color) with a reddish brown over coat. The cheeks and the lower jaw are

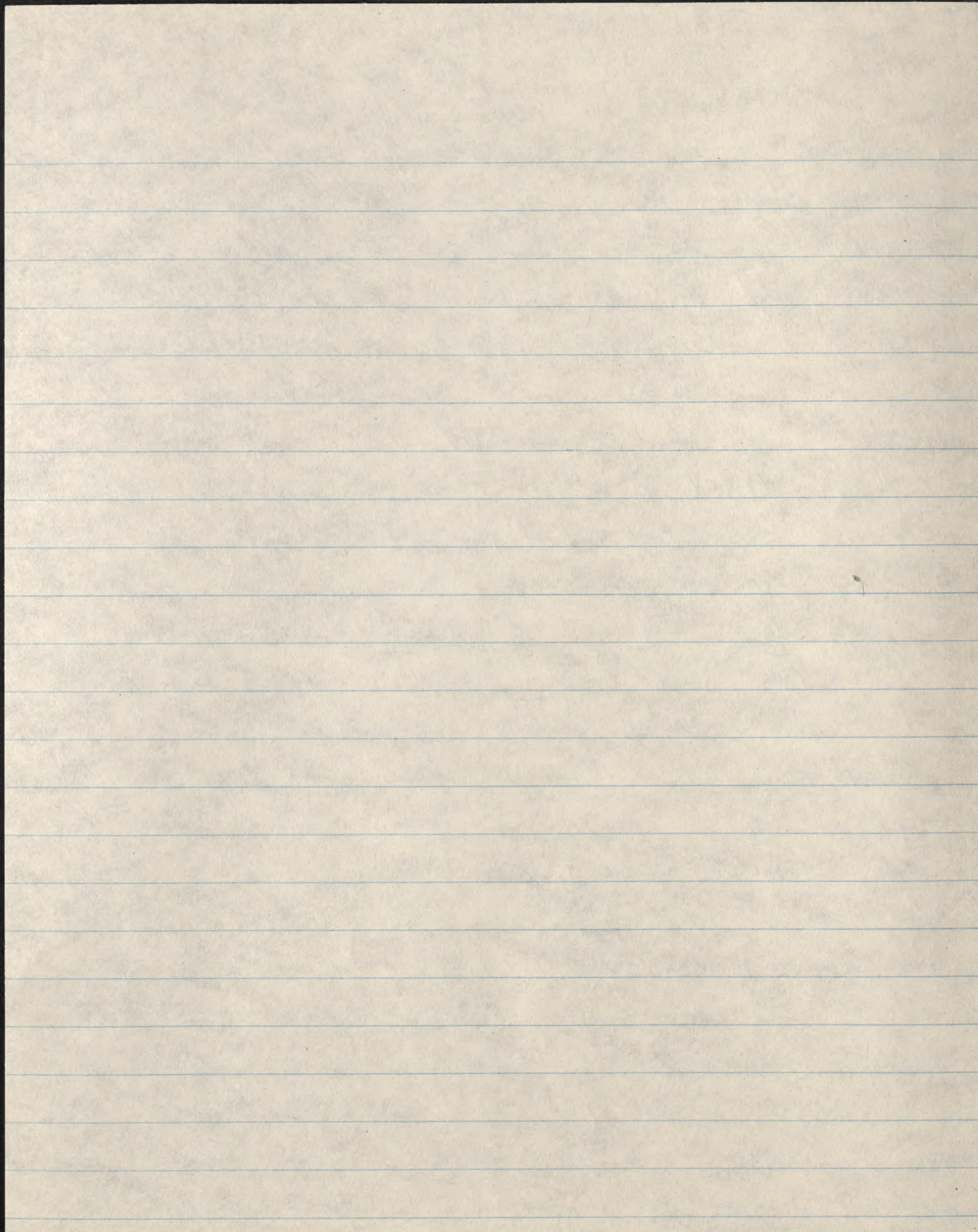
a light gray, to an almost white spot on the superior
throat region; the lower throat having the grizzled
light gray similar to the ^{lower} ~~shoulders~~. The neck,
shoulders, fore limbs, ^(dorsally) ^{darken} are a dark grizzled gray with
a darker shade above, and the fingers. The dorsal surface
back from a point behind the shoulder blades
to the base of the tail is a dark brownish
black shading off on the sides to a dark
grizzled gray. This color has a definite brownish
overcast which is more intense above the base
of the tail and slightly intensified dorsally.
The hind limbs are much like the front
in color with a dark grizzled gray terminating
in ^(line of feet) almost black digits. The belly about the
perineum is almost white shading outward into a light
gray. The ♂ has a solid gray belly. In both sexes
the color becomes darker the further it is away from
the mid ^{ventral} dorsal line. Between the hind legs it tends
to be lighter gray corresponding to that of the mid belly. The
tail is a dusky gray with rather broad intensified spots of
darker gray. There is ~~no~~ apparent tendency to band.
Its general color is a light gray which is
lighter ventrally as well as terminally, the tips being almost
white. There is a general over shade of a brownish
red which is more apparent toward the base of the
tail than terminally.

Locomotion - As near as I can determine
its locomotion while on the ground is similar
to that of a kangaroo. It hops about on its
hind feet without placing its front feet to the ground.
The front feet are used in terrestrial locomotion only
when a very slow hop is made or to terminate a
series of rapid hops. In climbing up
poles they use a similar hopping gait, with the
hind feet ^{held out} as ^{to} ^{grasp} with the inner fleshy
part of the very web ^{and} rather ^{than} with the
claws. The front feet are used ^{for} ^{clinging} ^{clinging} by
grasping with the two feet appressed or by clinging
to the ^{rougher} surface with their claws. The
claws may be turned like so -  The digit

play they utter a low ^{air} squeak repeated frequently.

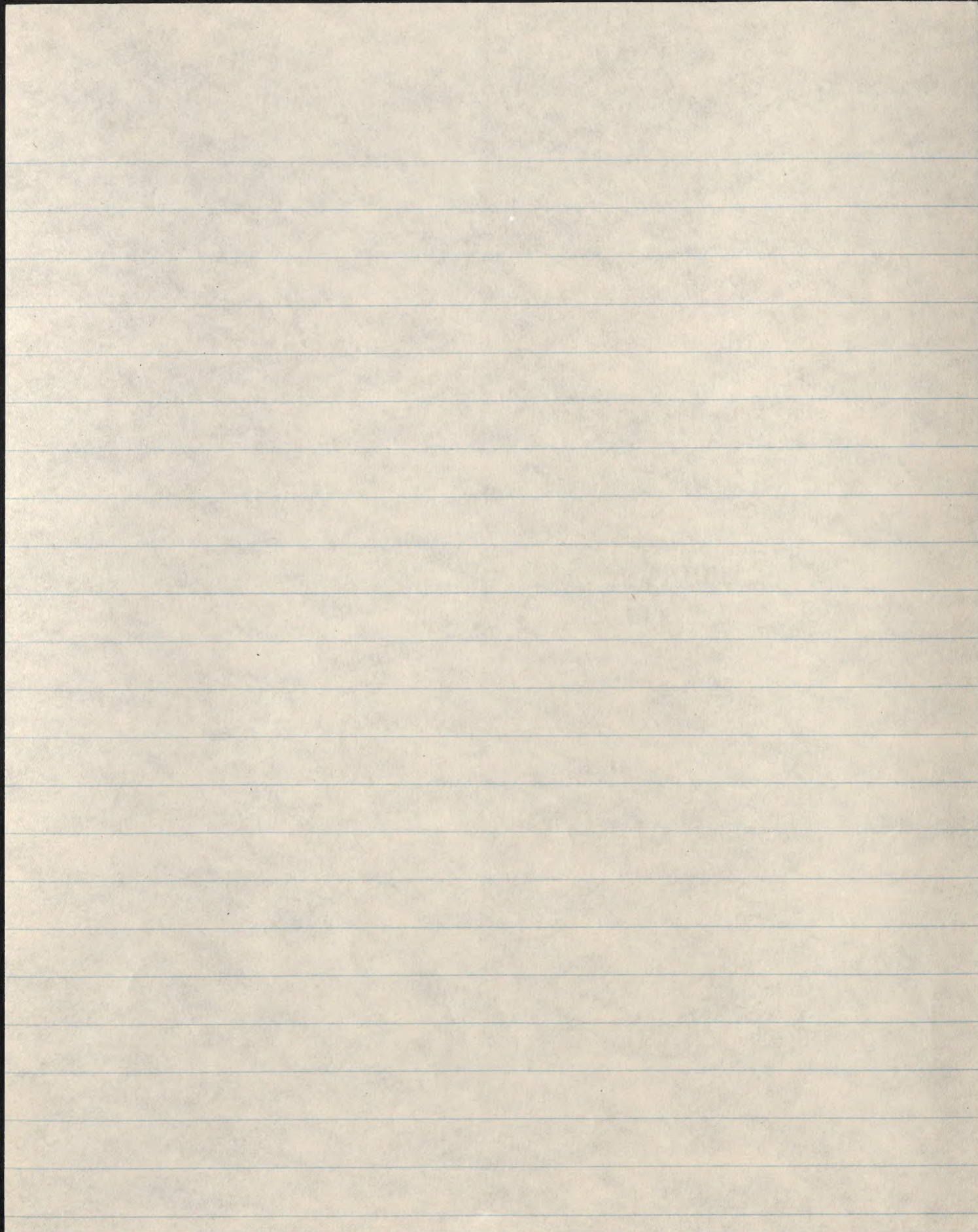
Miscellaneous notes. - When running they hold their tail off of the ground and directly behind the front feet are ^(touching ground) used in running ^{only} to keep balance. At their present age there is a great deal of play activity consisting of grasping, and nipping each other as well as running around.

Dabronia (large sp.) — Thirty seven specimens of this species were obtained from the vicinity of Hollandia. 8 were brought in by a collector from 4 km W Irobati and the other 29 were taken from "Tanjung Sks" 11 km SE of Hollandia at the eastern edge of Humboldt Bay. Here large limestone cliffs had been eaten into by the action of the sea forming grottoes at the water's edge. It was the larger of these caves that we examined. Only a few bats were seen as we first entered, these flying from one dark crack to another. After the first shot was fired they flew out in large numbers from the two large dark fissures in the height (100 - 150 ft) ceiling, filling the air with harsh squeaks and clung. They came to rest congregated in groups on the ceiling. There were between 750 and 1000 individuals of this species in this cave, both sexes and all ages. This would indicate that there



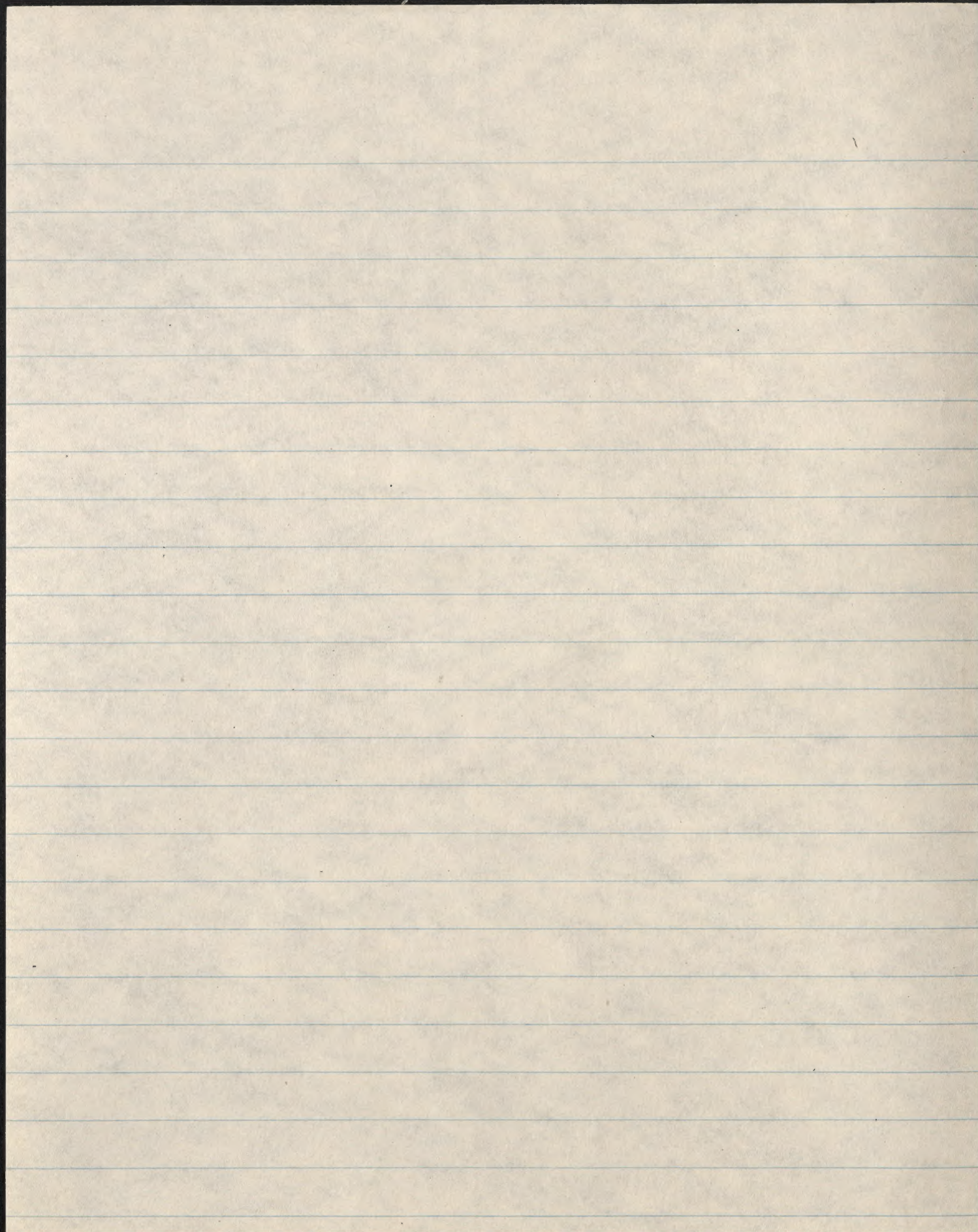
was no well defined breeding season. This was not only apparent on examination of individuals but also by the embryos of different stages of development found in the ♀s. Only one embryo per female. There were two other species of bats Miniopterus, and Myotis which inhabited the same cave.

Five individuals were taken from Bernhard Camp. Two of these were brought in by collectors from the rain forest. Two others were while hanging up together beneath the same large leafy palm about 4 m above the rain forest floor. The other was taken under a similar palm leaf about 3 m above the ground. Of interest is the fact that in all instances the ♀s were found hanging up solitary while as the ♂s hang up in pairs. This same condition was found with the smaller species of the same genus.



Dobsonia (small sp.) — Six of this species were taken at the Bernhard Camp. Their daytime habits were much the same as that of the larger species clinging to the lower side of the large ^{leafy} palm. One was found ^{hanging} hanging, 8 ft above the forest floor, no other records of this sort were given. One individual taken by a collector was seen ^{at 15 ft} flying above the forest floor and occasionally lighting on the leaves and small branches of one of the trees of the substage. My collecting boy said it was eating the leaves of one of these trees (Eucalyptus) the leaves of which they themselves cooked. Its flight was moderately fast, steady, and even without breaks as I found in insectivorous bats. It would sometimes hover over the tree for 20 seconds or more before alighting. As with the larger species the sexes of this species were found hanging in pairs while the ♀s hang up solitarily.

A single specimen was brought in from the Cyclops (Cyclops Mountains) by a collector.



Dobsonia (large sp.). - Thirty-seven specimens of this species were obtained from the vicinity of Hollandia. Eight were brought in by a collector from 4 km. west of Tabati and the other 29 were taken from "Tanjun Shi", 11 km. S.E. of Hollandia at the eastern edge of Humboldt Bay. Here large limestone cliffs had been eaten into by the action of the sea, forming grottoes at the water's edge. It was the larger of these caves that we examined. Only a few bats were seen as we first entered, these flying from one dark crack to another. After the first shot was fired, they flew out in large numbers from the two large dark fissures in the high (100-150 feet) ceiling, filling the air with harsh squeaks and dung. They came to rest congregated in groups on the ceiling. There were in this cave between 750 and 1000 individuals of this species, both sexes and all ages. This would indicate that there was no well defined breeding season. This was not only apparent on examination of individuals but also by the embryos of different stages of development found in the ♀'s. Only one embryo per female. There were two other species of bats Miniopterus and Myotis which inhabited the same cave.

Five individuals were taken from Bernhard Camp. Two of them were brought in by collectors from the rain forest. Two others were taken while

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hanging up beneath the same large leaf of fan palm about 4 m. above the rain forest floor. The other was taken under a simalar palm leaf about 3 m. above the ground. Of interest is the fact that in all instances the ♀'s were found hanging up solitarily whereas the ♂'s hung up in pairs. This same condition was found with the smaller species of the same genus.

and in a number of cases the results of the tests were

the same. The results of the tests were as follows:

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5. The results of the tests were as follows:

Dobsonia (small sp.). - Six of this species were taken at Bernhard Camp/ Their daytime haunts were much the same as those of the larger species, clinging to the lower side of the larger ed fan palm. One was found hanging from the leaf 8 feet above the forest floor; ~~XXXXXX~~ no other record of this sort were given. One individual taken by a collector was seen flying some 15 feet above the forest floor and occasionally lighting on the leaves and small branches of one of the trees of the substage. My collecting boy said it was eating the leaves of one of these trees (Eretum), the leaves of which they themselves cooked. The flight was moderately fast, steady, and even without breaks as is found in insectivorous bats. It would sometimes hover over the tree for 20 seconds or more before alighting. As with the larger species, the ♂'s of this species were found hanging in pairs, while the ♀'s hung up solitarily.

A single specimen was ^Nbrought in from the Cyclops (Cyclops Mountains), by a collector.

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1900 (small sp.) - Six of this species were taken in

the same place. Their numbers were about the same as those of

the larger species, and it is to be noted that the larger of the

two was found in the same place as the smaller one.

1900. Several of the small ones were taken in the same

place as the larger ones, and it is to be noted that the larger of the

two was found in the same place as the smaller one.

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two was found in the same place as the smaller one.

Dobsonia

July 5 11 km. SE Hollandia, Netherlands New Guinea

July 5, 1938 — Shot 29 of this genus this afternoon. They were taken in a sea cave. Near a limestone cliff borders the ocean which by the action of the waves has been eaten away forming large holes or caves at the surf edge. We went into the larger of these caves and from which the bats were taken. Only a few were seen at first (50-100) flying from one dark hole or crack to another. After the first shot they flew out in large numbers from two large ^{higher} dark cracks in the high ceiling (700-1500 ft) ^{flying} and congregated in large groups on the ceiling. They were easily disturbed filling the air with loud squeaks and chirps. I can't think of anything denser than a disturbed ⁱⁿ ~~bat~~ ⁱⁿ cave in the large numbers and close quarters that there were here. It was a striking filthy mess. As already mentioned there were large numbers of bats in the cave. I would estimate that there was somewhere between 750-1000 individuals. [According to Ramon and Steve a number flew out of the cave and alit in the bushy jungle along the coast above the cliffs.] There were both sexes and all ages. Apparently there is no breeding season. This was not only apparent by individuals but ^{also} by the embryos of differing stages of development. Those ~~female~~ ^{female} ♀s having embryos had only one. There were two other species of bats in the same cave Miniotris, and Myotis.

July 9 Hollandia, Netherlands New Guinea.

Sixth (6) individuals were brought in by a Papuan today. According to him they were taken from a cave near Mr. Brinkman's house. This cave being located 2 km. inland ^(west) from Pm.

July 14 km. W Sabatu, Netherlands New Guinea.

Two of this genus were brought in today from the same man and probably from the same place. These bats, however,

appeared to be shot, probably while feeding on the kapok fruits or flowers. They were 4 *Pteropus* brought in with the *Debonia*.

Apr. 12 Berndt Camp, Idenburg R., Netherlands New Guinea 80 m.

2. ^{1 by Rand. 2nd small eggs} shot yesterday. It was flying some 15 ft above the forest floor and occasionally lighting on the leaves and small branches of one of the second stage trees. My collecting boys said it was eating the leaves of this tree for they themselves use these leaves for their "siure". The flight was moderately fast, but steady and even with no breaks. It would sometimes flutter or rather hover over the leaf for 20 seconds or more. [♀] The larger species was shot by Rand and sent over to our camp for preparation.

Apr. 17 ^{3 ♂ 2 small} shot ~~just~~ this afternoon by my collecting boy. According to him they were hanging on the under side of a large large leaf in the forest.

Apr. 19 ^{♀ 1 small} shot by Rand.

Apr. 25 [♀] shot by collecting boys. # 7915 ♀ hanging up solitary under ^{sun} palm leaf some 3 meters above the ground in the forest at the upper edge of the flood plain. The other two # 7906 & # 7907 ^{large} ♂ ♂ taken on lower flood plains. Hanging beneath leaf of fan palm 4 m. above ground. These two alone hanging together under same leaf. ^{♀ 1 small} # 7919 was shot by collecting boy from under palm leaf in forest.

Apr. 28 ^{♀ small} shot. Found landing under leaf of fan palm some 8 ft above ground.

May 4 ^{1 ♀ large} shot by Rand collecting boy.

Dorcopsis

June 24 Hollandia, Netherlands New Guinea.

A male of this species was brought in this afternoon by a Papuan. According to his story he caught it in "Ellog Yar" a jungle near Hollandia. I would judge from his pointing and mumbling that it was taken about 1 mile south of Hollandia. During my stay here I have heard 1 of these beasts as it ran through the forest. It was in a thick second growth forest near the top of a small hill $\frac{1}{2}$ mi. south west of Hollandia. Purchased for 3.00 guilder.

June 25 Hollandia, Netherlands New Guinea

Another wallaby was brought in this ~~mor~~ afternoon by the same Papuan who brought in yesterday. I assume then from that it was taken in the same jungle as yesterday for as a rule on men is restricted men as he to the bounds of a certain jungle. He had prepared the skin in such a poor fashion that I paid him only 2.00 guilder for the skin plus the skull.

June 26 Hollandia, Netherlands New Guinea

Purchased (3.00 guilder) another wallaby today from the natives. Their campsite is "Ya pasa" and according to them the beast was caught in utang (forest) "Yaw" north west of Hollandia (2 mi?)

June 27 Hollandia, Netherlands New Guinea

4 Wallabies were brought in by a single individual. They were purchased, 2.00 guilder for the smaller ones, 2.50 for the larger. Number # 4084 and #4085 were taken in Utang (forest) "Ya sok" which according to the natives is 1 kilometer south of Hollandia. The other #4086 was taken in Utang "Mominic" two kilometers south of Hollandia. I do not know where #4088 was taken. The three females with the possible exception of #4086 had been suckling young evidence of which was an

enlarged mammary gland^(one) in this pouch.
) cut out this genital system and no
embryos were found. One of them is preserved
for further examination. According to the
natives who brought them in their young
had escaped, during the capture of the
adults. I do not know for sure how they
take the animals but from the condition
of the animals it appears that they are
caught in a snare or dead fall. [incorrect, see below]

June 28 Hollandia, Netherlands New Guinea.

Yesterday evening the 3 Dyak collectors and
I went hunting with flash light. One hundred
and 25 yd south (along trail) of Van Sailer's I
caught the eyes of two Dorcopsis. They were
standing along the side of the trail conscious
of our presence but apparently not nervous.
I shot an adult female and her young (#4089
and #4090) the other escaped along a small
trail through the rain forest. The general
country in which the animals were taken
was a heavy rain forest, one of the heaviest
in the region. There are however numerous
small trails about which might serve as
avenues of escape for the animal. Then to the
heavy crown of the jungle tends to blanket
out the undergrowth making the country
entirely to the terrestrial habits of the animal.
The eye shine was a rich yellow with a bit of
orange.

This afternoon the wallah hunter (Pegoon)
came in with another animal #4094. It was
caught according to him in Elong "Pate" 1 kilometer
south east of Hollandia. I inquired into his
methods of catching them and he said with a grin.
It is apparently a successful way to get them.

June 30 Hollandia, Netherlands New Guinea.

This afternoon I purchased (3.00) an adult ♂. According

Dorcopsis

to the boy who brought it in it was taken in utang
"Kato bar ro" 10 kilometers south of Hollandia. It was
apparently taken some where south of Mr. Birchman plantation. #4164

July 2 Hollandia, Netherlands New Guinea.

Two males one adult and one sub-
adult were brought in yesterday evening
by Papuans from Tabati. According
to them they were caught in utang
"Se quant" between 5-7 kilometers south
of Hollandia.

July 5 Hollandia, Netherlands New Guinea.

A local Papuan brought in 4 of this genus
today. According to him they were caught
in utang "Mominé". He did apparently use
dogs in the capture. One individual although mangled
is being kept alive for study. [Died July 6 #4176]

July 6 Hollandia, Netherlands New Guinea

Three individuals were brought in this
evening by local Papuans. They said the
three were taken in the jungle 1 km. west of
Hollandia.

July 7 Hollandia, Netherlands New Guinea

Another individual was brought in late yesterday
evening by a local Papuan. He did not say but
apparently it was taken in the nearby jungle.

July 9 Hollandia, Netherlands New Guinea

Three of this species were brought in
today by local Papuans. They were supposedly
taken near Hollandia.

July 13 Hollandia, Netherlands New Guinea.

Two specimens brought in by Papuan
who said they took them in the jungle at
"Koto bar ro" near Mr. Kuipers.

July 15 Hollandia, Netherlands New Guinea.

The three specimens prepared today were brought in by natives. I do not know the exact locality but probably were from the immediate vicinity of Hollandia.

July 16 Hollandia, Netherlands New Guinea.

The four animals were brought in by local Papuans. Two of them #406 and #407 were said to have been taken in utang Hollandia, 2 km S W of Hollandia.

July 17 Hollandia, Netherlands New Guinea.

One animal brought in yesterday by a Papuan who said he shot it in utang Hollandia.

Oct 26 On N.E. Lake Habbema, Netherlands New Guinea 2800m.

1 in 17 steel traps. Individual caught in a trap set on a log (3ft in diameter) crossing above the stream. There was no well defined trail worn in the moss and ferns growing on the log but there was evidence of it having been occasionally used, serving as a natural bridge.

Nov 13 Behu R. 18 km N Lake Habbema, Netherlands New Guinea. 2200m.

1 brought in by natives.

Nov 15 Behu R. 18 km N Lake Habbema, Netherlands New Guinea, 2200m.

1 brought in by natives.

Nov 24 Behu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.

1 brought in by natives.

Nov 28 Behu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.

2 brought in by natives. A ♀ with its young.

Nov 29 Behu R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.

1 brought in by natives.

Dorcopsis

Jan 14 15 km SW Bernhard Camp, Irian Jaya, Netherlands New Guinea 1800 m.

1 in 28 steel traps. Taken in large running
bush a suspended log. The log was seen 2 feet above the
ground at the point where the beast was taken. There was one
forest trail, typical of the beast leading into the trail
bush the log, following along for some 6 or 8 ft. and then
going on into the forest.

Feb 20 6 km SW Bernhard Camp, Irian Jaya, Netherlands New Guinea 1200 m.

1 in 17 steel traps. Brought in by
collector. Small but well formed pouch.

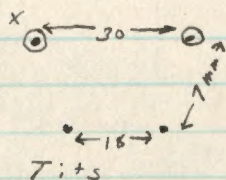
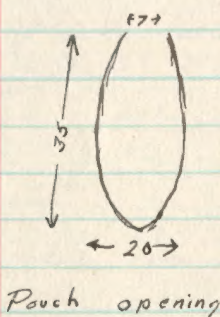
Feb. 25 1 in 17 steel traps. Brought in by collector.

Notes on pouch which contained a single young -

Opening measured 35 mm long by 20 mm. broad
Border (5 mm) of thin, short, light grey cloth like short hairs.

Shape of opening is green oval with a 7 mm. space between
anterior horns of lip. From posterior lip of pouch to

ridge measures 95 mm. Pouch itself
is broad oval in shape measuring
90 x 70 mm.; sparsely haired. Concerning
tits see diagram below. The 2 anterior ones
are functional tit in lactating. The posterior
pair thigh apparently enlarged as not
lactating. The young was attached to
the upper anterior left (marked x). Length of
anterior tit 22 of posterior tit 10 mm.
From the anterior lip of the pouch to
the anterior tit is 55 mm. ~~At~~
the two anterior tits, the right is
the most enlarged, not the gland to
which the young was attached.



The young found in the pouch see # 7545
alcoholic glass above and apparently uninjured.
Its activities were watched while it was in
the pouch and then the tit to which
it was attached was cut and its activities
watched while it was on a board and again
while being held aloft by the cut end of the
tit. In all these conditions similar

activities and reactions were exhibited. No sense of equilibrium. Activities were a constant pawing with the front feet. The hind feet ~~remained~~ ^{were} ~~together~~ ^{kept} together with slight movement from the hips but most movement from the lower spinal region. Whereas the front feet were constantly kept in a more or less rhythmic motion the hind feet moved forward and upward toward the hind front feet and back in a slow sporadic tinges (not rhythmic). The side motion was almost entirely restricted to the hind or anterior part of the body. No rhythm to the ~~one~~ ^{movements} similar to hind feet motion. No noise uttered. Tail remained in mouth though heart was suspended by ^{cut} ~~two~~ ^{end}. The stomach contained remains of fruits and small amount of young leaf material.

Mar. 2 4 Km SW Bumband Camp Idenburg River, Netherlands New Guinea 1200 m.
1 in 182 snares. Brought in by collector.
Stomach contained remains of young leaf and other such green materials (young succulent vegetation)

Mar. 14 4 Km SW Bumband Camp Idenburg R., Netherlands New Guinea 850 m.
1 in 27 steel traps. Brought in by collector.
Taken in forest runway. Habitat low ridge with low heavy forest, open undergrowth, and leaf-littered forest floor. Stomach contained remains of young shoots, leaves and such green materials. No fruit remains seen in stomach. Many round worms in stomach.

Mar. 24 1 in 27 steel traps. Brought in by collector.
Stomach contained remains of green plant material.

Mar. 27 1 in 832 snares. Brought in by collector.
Stomach contained green leaf remains. Many round worms in stomach.

Mar. 30 1 in 27 steel traps. Brought in by collector.
Stomach contained green vegetable material. Many round worms in stomach.

Dorcopsis

Apr. 3 4th. S.W. Bernhard Camp Mustang R. Netherlands New Guinea 850m.

1 in 27 stub tags. Brought in by collector.
Stomach contains remains of green vegetation. Many round worms in stomach.

Apr. 4 2: (1^{juv}) in 998 snare. Brought in by collector.

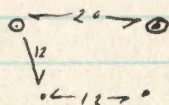
In pouch was very small young (an adult). Measurement of pouch region as follows.

Posterior tip of pouch to vagina 110 mm.

Pouch opening - 30 long by 22 broad.

Size of pouch 115 long x 76 broad.

Anterior tip to anterior base of pouch 80 mm.



Drogen of tit. The 2 anterior tits worked

○ were both functional (lactating) however

there was only 1 young. This young was

attached to the smaller of the 2 functional

tits. Smaller in size of tit and size of gland. It is much smaller at end of tit, that position which is in the mouth of the young.

○ size of tip of tit to which young was attached. ○ size of tit end to which there was no young attached. I believe that the

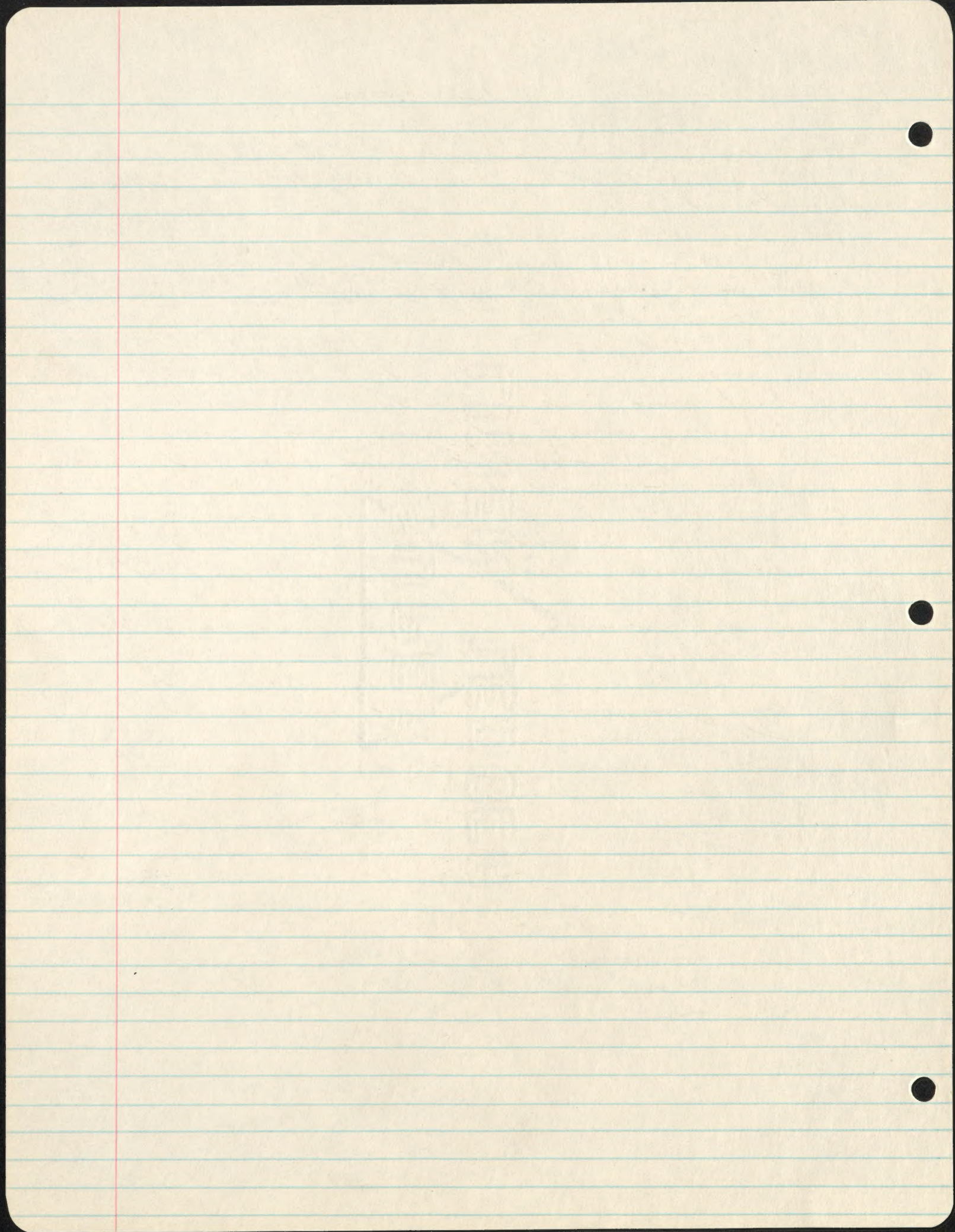
larger functional tit was the one to which the previous young was attached. At the

time of birth of the present young this tit was too large to attach to self to and so it used 1 of the other 3. Thus

a tit does not serve more than every other young giving it a chance to rest and return to non lactating state. If the young was able

to attach itself to the ~~same~~ tit of the previous young I doubt whether the constituents

of the milk would be correct for such an immature beast.



W^mB. Richardson
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Echymipera
~~Reodon~~

June 13 Hollandia, Netherlands New Guinea.

One specimen, a large adult male, was sold to me this morning by ~~an~~ one of our Santani Cookies for 25¢ providing I would return the carcass to them for food. They consider them good eating and from all ^{external} appearances I ^{I can't} see why not. a nice light colored meat which cut easily with the scalpel. According to the Cookie this animal was caught or rather shot with his bow and arrow $\frac{1}{2}$ mile north east of Hollandia in or near a small sago swamp which is situated at the mouth of a river (small).

The evening we went hunting in the same region but failed to see any although wild pig were common there.

June 17 Hollandia, Netherlands New Guinea.

A subadult female was taken from the traps set on the hill to the south east of Hollandia. Its exact habitat is unknown to me but the general habitat is that of a second growth forest beneath which there is both open space and littered brushy undergrowth.

The local names for this animal are

Semoic	- Totati
Tekus	- Malay
Eme	- Santani

June 18 Hollandia, Netherlands New Guinea.

My two collecting cookies pointed out the trap in which the yesterday's specimen was taken. It was at the edge of a litter heap beneath a second growth forest. Beneath the forest there is an open undergrowth and litter. The thin littered soil is covered with a thin layer of humus and leaves.

June 26 Hollandia, Netherlands New Guinea

The Dyak collectors killed one of these birds this morning. I presume that it was taken in the vicinity of the tree line which is about $\frac{1}{2}$ mile south west of Hollandia.

June 29 Hollandia, Netherlands New Guinea

Purchased an adult ♂ from a Papuan this morning 35¢. He said it was taken in the jungle while sitting trees. Another juvenile ♂ was taken by my Papuan collectors while hunting in the jungle.

July 4 Hollandia, Netherlands New Guinea.

Purchased (35¢) another ♂ from the natives this evening. They (2 young boys) had shot it with a bow and arrow as evidenced by the hole in the carina and the bloody arrow. It was probably taken in the jungle in the immediate vicinity for it was local boys that brought it in and it was still in a warm relaxed condition. (Preserved on 5 July)

July 8 4 km. N.E. Dojo, Netherlands New Guinea

The specimen preserved today was one of three brought in by a Papuan from Mr. Cheli at or near Dojo on Sertani Lake.

July 9 Hollandia, Netherlands New Guinea.

One of the Ambonese collectors shot an adult ♀ with juveniles in pouch. I did not inquire as to the exact locality but presume it was taken within 2 km. of Hollandia.

July 12 4 km. N.E. Dojo, Netherlands New Guinea

Two of the specimens #346 and #350 were ones which were brought in to Hollandia by Mr. Cheli's coolies. They were taken at or near Dojo on Sertani Lake. They have been kept alive

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2

Echymipera

for the past few days but due to
improper food and handling they died.

July 12 Hollandia, Netherlands New Guinea.

A local native brought in a large adult
male last night which he had taken with
his bow and arrow in the jungle near Hollandia.

July 15 4 km NE Dojo, Netherlands New Guinea.

The three specimens prepared today
were brought down by Mr. Chli yesterday.
They were taken in the vicinity of
his home near Sentani Lake.

July 16 Hollandia, Netherlands New Guinea.

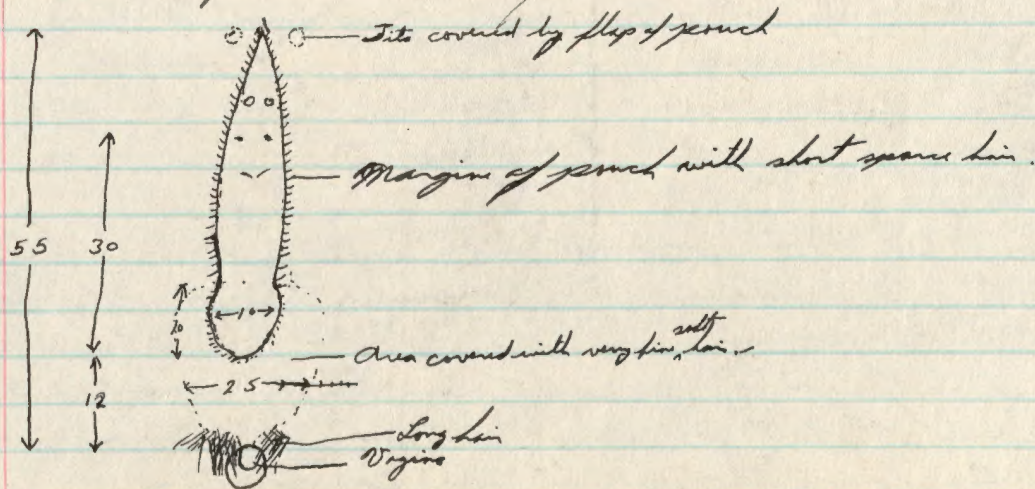
The Dyak shot a ♀ with its young
in its pouch. It was taken ^{at night} while
hunting with flash light in the jungle
south of Hollandia.

Feb. 18 6 km SW Bernhard Camp Idenburg R. Netherlands New Guinea, 1200 m.

1 in 23 snares. Brought in by collector.
Stomach contained remains of many insects and other
invertebrate life. Noted such things as centipedes,
arthropods, beetles, grubs, ants, eggs of different
insects (probably ants), etc.

Feb. 20 1 in 74 snares. Brought in by collector.

Following information is from fresh specimen



This pouch is remarkably long extending forward to with 1 cm of front legs. From legs to head it measures 180 mm. The width is fairly constant throughout measuring between 50 and 60 mm. The snare which caught this beast caught it mid way between fore and hind legs; 170 mm from ^{tip of snout}. It, that is the snare, also caught the young which was in pouch mid way between fore and hind legs. (See alcoholic specimen). This would indicate that young were carried in pouch with head toward posterior of adult. It is also interest to note the well formed pouch in the jaw. This is not apparent in juveniles of the related genera Peroryctes.

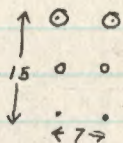
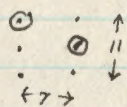


Diagram of titts. The forward ^{equally} enlarged and lactating. The middle pair small not lactating. The posterior pair very very small. They measure respectively 27 mm., 6 mm., 1 mm.

Feb. 28 6 km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.
1 in 182 snares. Brought in by collector.
Stomach contained insect remains.

Mar. 9 4 km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
3 ~~in~~ (200) in 141 snares. Brought in by collectors. There were 2 young in pouch unattached to titts. Measurements of pouch. Pouch slit 30 mm.
Posterior lip of pouch to vagina 12 mm. Pouch 100 x 45 mm.



Only 2 individuals of the 3 pair lactating. Lactating titts measure 20 mm. Non lactating measure 2 mm. From posterior pair of titts to lip of pouch is 30 mm. The lack of tail in adult curious. The 2 ygs, however, both have apparently normal tails (see alcohols).

Echymipera

On examination of about 1000 remaining caudal vertebrae I believe that the absence of the tail is ^{an} abnormality.
~~due to~~

Mar. 14 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.
1 in 231 snags. Brought in by collectors.

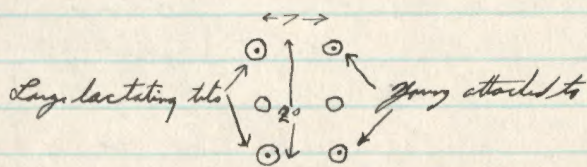
Mar. 15 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 209 rat traps Brought in by collector. juv. Badly mutilated by ants.

Mar. 16 3₁ (2 juv.) in 508 snags. Brought in by collectors
The anterior 2 of the 6 (3 pairs) of the are lactating.
Vagina & lip of pouch 12 mm. Vagina & pouch tube 40 mm
Length of tit row is 12 mm. Length of pouch opening is 40 mm. Stomach contained numerous small insects

Mar. 18 2 (1 juv.) in 573 snags. The interesting thing here is the relatively small size of this breeding animal. Apparently these bandicoots do not reach a size when growth ceases but rather there is a continued growth throughout their life time. There was only 1 of the 6 mammary glands lactating, one of the anterior pair. Stomach contained remains of many small insects.

Mar. 21 4 (2 juv.) in 670 snags - Brought in by collectors.
The adult ♂ #7703 is the largest I have yet taken in this camp. In comparing it with the ♀ at hand I can see no differences except in size and the yellow belly and ^{supra}ling. to the dorsal hair. This latter coloration, that is the yellowing of the hair might well be stain rather than a natural color. The ♂ certainly is much larger and more massive proportion which seemingly indicates a growth throughout life. In the pouch of the ♀ #7698 are two juveniles #7699 + #7700. One still remain alive. The following are notes on its activity. - While attached to tit is inactive except for rhythmic movement of the stomach muscle which gives a quick contracting about every 2 to 3 sec. There is no sense of equilibrium nor apparent effort to

large positions. When disturbed with fingers it makes a very slow clawing motion with front feet. ~~The~~ At present I am watching the little heart and very occasionally in addition to the stomach contraction there is a slight movement of shoulders and head, seemingly an effort to obtain milk from the tit. On being removed from the tit and placed near the vagina the heart is inactive on its side except for a more rapid contraction of the stomach walls. No effort whatsoever is being made to crawl. On being redisturbed still makes no effort to crawl. When placed in pouch still inactive. Tit placed to mouth no effort made to reattach itself.



This diagram of the ~~tit~~ is interesting in that of the 3 pairs 2 the ~~marked~~ labeled large lactating

are in size 5 or more times as large as the others which are approximately the same in size. These 2 large lactating tits are far too large for the young to attach themselves to. They measure 3.5 mm. though at the tip while the muzzle of the young have a depth only of 3.7 mm. From this I would conclude that the young on birth have a choice of 4 tits rather than six or 7 which to attach themselves and these 4 being of approximately the same size and the same functioning state. On attachment however these ^{tits} only continue development the others becoming small and non-functional. The 2 large lactating tits here are probably those that were used by the two previous young and have not as yet returned to the size and shape of non-lactating. They will probably do so with the

Echymipera

development of the other glands and this done. If these large tit, or rather the post-functional ones, are present at time of birth as is the case here it will ~~the~~ function as a rotation of ~~the~~ mammary activity. If young are born at the same time the last litter was it would give the glands a rest period ~~at~~ without delaying birth periods.

Length of pouch opening 40 mm.

Tip of pouch to vagina 16 mm.

Length of pouch to posterior part of the 28 mm.

Pouch dimensions 120 x 62 mm.

Stomach of both adult individuals contained insect remains and seeds of *Pereskia* and the ♂ had seeds of unidentified fruit.

Mar. 22 4 Km. SW Dumbard Camp, Dumbard R., Netherlands New Guinea 850 m.

3 (2 juv.) in 742 snare. Taken on a low ridge with rather open forest and moderately heavy undergrowth. The forest floor had a leaf litter. The most interesting thing is that the snare was set beneath a fruiting garden many of the fruits of which had fallen and had in part been eaten by some animals. It is the same garden (sp.) the seeds of which have been found in the stomach of other bandicoots. The pouch contained 2 young (underdeveloped).

Pouch measurements

Posterior tip of pouch to vagina +12 mm.

Pouch opening 40 mm.

Posterior tip of pouch to posterior tit 32 mm.

Length of tit row 14 mm.

Breadth of tit row 5 mm.

Size of pouch 90 x 45 mm.

Mar. 24

1 in 812 snare. Brought in by collector. Had only, remainder of bait eaten while in the snare.

Mar. 29 4 Km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.

2 in 207 rat traps, + 845 snare - Brought in by collectors. Stomach of large ♂ contained remains of insects and pandanus seeds.

1 in 876 snare. Brought in by collectors.

This bat seems to me to be different than the species taken yesterday.

It is gray in color particularly dorsally and laterally; it has a larger narrow ear, darker eye patch, large tuberculate sole pad on hind feet measuring 23×8 mm.

The absence of the tail is an abnormality. A very short stub can be felt under the skin.

Mar. 31 1 in 931 snare Brought in by collectors. Taken on low ridge above the flood plain to the NW of camp. Stomach contained insect remains and Pandanus fruit.

Apr. 1 2 in 987 snare. Brought in by collectors.

Apr. 7 2 in 1075 snare. Brought in by collectors.

Apr. 10 Bernhard Camp Idenburg R. Netherlands New Guinea 80 m.

1 in 346 traps. Brought in by collectors.

Apr. 15 1 in 253 snare

Taken on upper flood plain. Stomach contained insect remains, insect (at) eggs, and broken membranes of some reptile egg.

Apr. 16 4 in 27 stake traps + 328 snare. #7863

Taken on flood plain, the other 3 on the lower mountain slope. The pairs of #7861 and #7863 are similar being short with ^{ventral} ~~ventral~~ ^{ventral} tip of less than 1/3 the entire length. The anal had 6 tits of equal size, now lactating. The anterior end of the pouch had a small (7 mm) opening.

Apr. 19 1 in 418 snare. Brought in by collector.

Taken on lower mountain slope.

Apr. 20 2 in 463 snare. Brought in by collectors. Larger species taken on flood plain. Smaller

Echymipera

species taken on low mountain slopes above flood plain.

Apr. 21 Bernard Camp, Gambia R. Milledale, New Guinea 75 m.
2 in 483 snaws. Brought in by collectors.

The specimen (skull only) had roughened sole pads.

Apr. 22 4 in 520 snaws, + 257 rat tags. Brought in by collectors

#7889, #7893, #7894 taken on lower mountain slopes above flood plain. #7890 taken on upper flood plain.

Apr. 23 3 in 570 snaws. Brought in by collectors.

Apr. 25 3, in 602 snaws Brought in by collectors.

Taken on low mountain slopes above flood plain. The 2 juv. are in alcohol. Pouch measurements as follows —

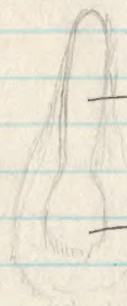
Vagina & position lip 10 mm.

Length of opening 46

Vagina & position tip tit 34

Length of pouch 112

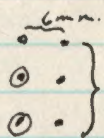
Width of pouch 60



— This part remains open and closes with spreading of lips.

— This remains open. As lips are closed together a tight lip, entrance to the pouch is formed, the thickened surrounding wall forming lips.

Diagram of pouch open



13 mm. length

Of the 6 tits 2 were functional. The others though enlarged apparently not lactating. Non lactating ones of similar size.

Young not attached to tits

Apr. 24 2 in 602 snaws Brought in by collectors.

Apr. 27 2 in 652 "

Apr. 29 Burndell Camp Idenburg R. Mithun New Guinea 50-75m.

3 (1 Juv.) in snaws. Brought in by collectors. Taken on small strip of land bordering the mouth of the stream when it enters into the lagoon. This area is above the present flood water which completely surrounds it. Habitat floor of the forested flood plain. 6 Mammary glands all of apparently the same size except one to which young was attached this being about $\frac{1}{2}$ grain & as long, but the same thickness.

Apr 30 1 in 799 snaws Brought in by collectors
Taken on lower mountain slope.

May 1 5 (2 Juv.) in 850 snaws. Brought in by collectors. #7983 & #7984 taken on lower mountain slope. #7987 taken on forested edge of lagoon. The flooded condition of the present time leaves small strips of land exposed and it was on one of these that the animal was taken.

May 2 2 (1 Juv.) in 893 snaws. Brought in by collectors from lower flood plain. Same locality as that taken on May 1.

May 3 3 (2 Juv.) in 895 snaws. Brought in by collectors from snaws at above small strip of exposed land (above flood water) ^{at mouth of} stream entering lagoon.

May 4 1 shot last evening by collecting boy. It was running about the leaf littered floor of the exposed (above present flood) forested land near the lagoon. Habitat - Primary forest, moderately thick undergrowth, moist leaf littered floor. There was 1 young seen in pouch (not saved).

May 5 1 brought in from 986 snaws. Taken on lagoon banks.

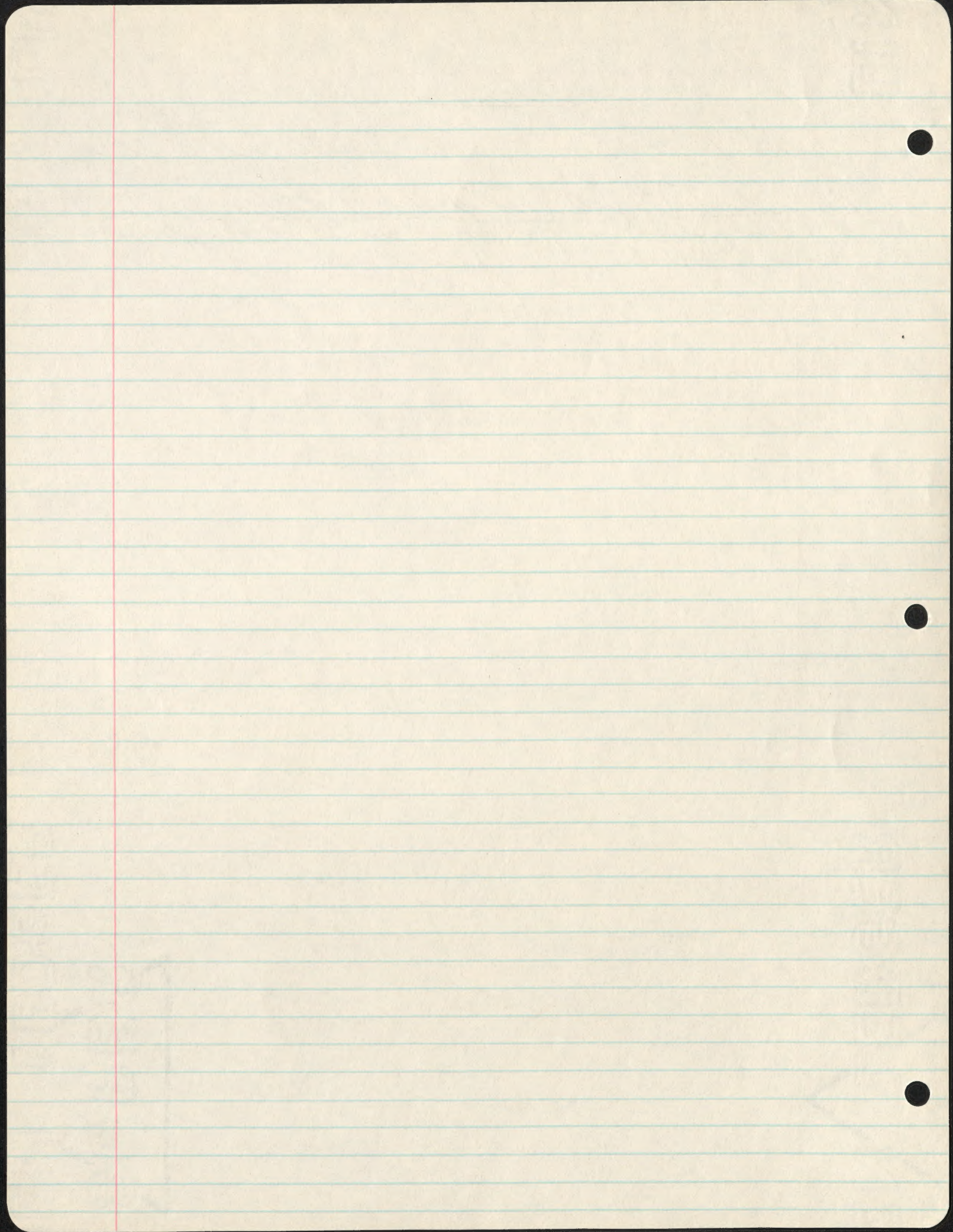
May 6 2 in 1055 snaws. Alcoholic specimen from lagoon banks. Shot only from east side of Idenburg River.

May 7 4 (1 Juv.) in 1055 snaws. Brought in by collectors. #8031 taken on lagoon banks. #8033 taken on the east

Echymipera

sides of the river. # 8035 and 8036 taken on lower
mountain slopes SW of camp.

May 8 Bernard Camp Harling R. Mithland the Guinea 500.
3 (2 Juv.) in 1955 same (sounded) Brought
in by collectors from across the river.



25th B. Richardson
1938

Emballonura

July 14 Hollandia, Netherlands New Guinea. ^{see level.}
One individual was brought in yesterday evening by a local native. I was unable to find out from him the habitat or exact locality.

Feb 13 6 km SW Benford Camp Shabang R. Netherlands New Guinea 1200 m.

One shot yesterday evening. This bat was flying between 10 and 20 feet ~~xx~~ above the ground, flying across the camp clearing and at the same time feeding. It is apparently a bat which feeds in above the under growth of below or in the second-story vegetation. One interesting thing is that they generally fly about in pairs, and often in 3's or 4's. They have a rather slow laborious flight. There are many of this species, judging from flight activities, seen each evening. I would estimate that there are between 40 and 50 seen each evening.

Feb 15 1 shot yesterday evening which it was foraging about the leafy fringe of the second story about 25 ft. above the ground.

Feb 20 1 shot by Rand. Shot about 6-40. Flying over camp clearing some 20 ft above the ground. Moderately slow flight. I believe that both species of this genus feed in the forest above the undergrowth and below the second story vegetation. They are shot about camp clearing only as it offers a suitable place in which to find them after they are shot.

Feb 21 1 shot by myself. Flying about 20 ft above ground across a small opening of camp clearing.

Feb 24 2 shot by Rand. Flying low between wooded points & either side of the camp clearing. No emb.

Mar. 26 ~~4~~ ⁴ ~~km~~ SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.

2 individuals shot yesterday evening. They were a number of the small bat flying some 40 to 50 ft. above the ground in the second growth forest at the upper edge of the flood plain. They were feeding in small openings and about the crowns of this second growth forest. There were perhaps 20 to 30 individuals seen last evening.

Mar. 29 2 shot yesterday evening. Same place and same circumstances as those taken on Mar. 26.

Mar. 31 1 shot yesterday evening. Shot in same place as above. These bats have a moderately rapid flitting sort of a flight with very quick breaks. They feed in ^{small} openings between the crowns of trees of the upper flood plain.

Apr. 3 1 shot yesterday evening. Flying high about crowns of the upper flood plain tree.

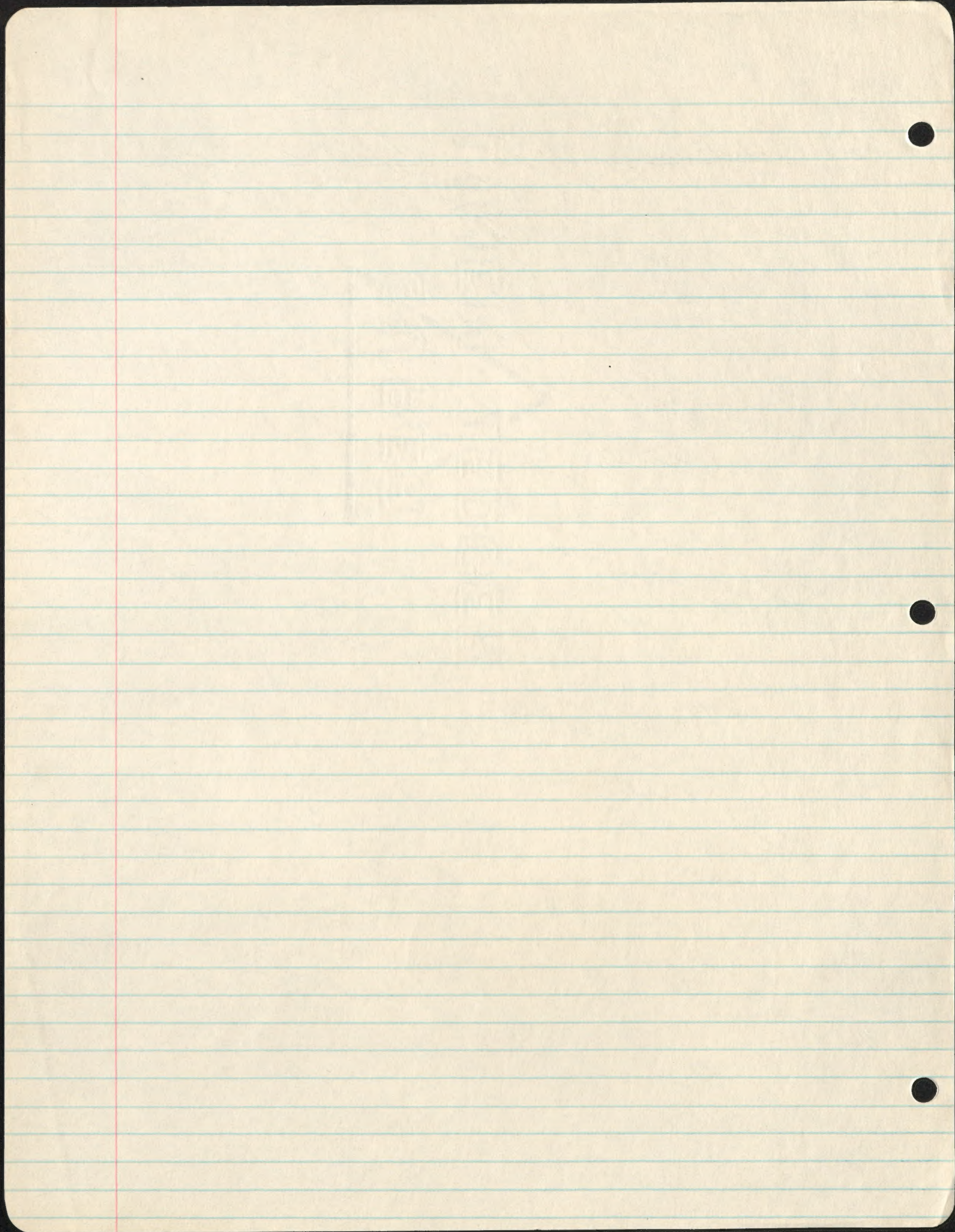
Apr. 12 Bernhard Camp Idenburg R. Netherlands New Guinea 75 m.

3 individuals shot yesterday afternoon. They were hanging at rest beneath a large leaf (12 in across) some 12 ft above the ground. It was not dark beneath but rather the thin ^{translucent} leaf gave them little shelter except from rain. When I first saw them they were huddled together, alert watching our movements. They made no attempt to fly away.

Apr. 18 4 individuals shot this afternoon. They were hanging beneath a fan palm leaf. When first seen they were flying about in a small (15 ft) arch through the foliage of the ^{upper} lower second stage vegetation. After about 3 or 4 minutes flight they came to rest beneath a palm leaf some 20 ft above the ground. They hung ^{individually} some 2 or 3 inches apart. The 2 ♀ each contained a young

Emballonura

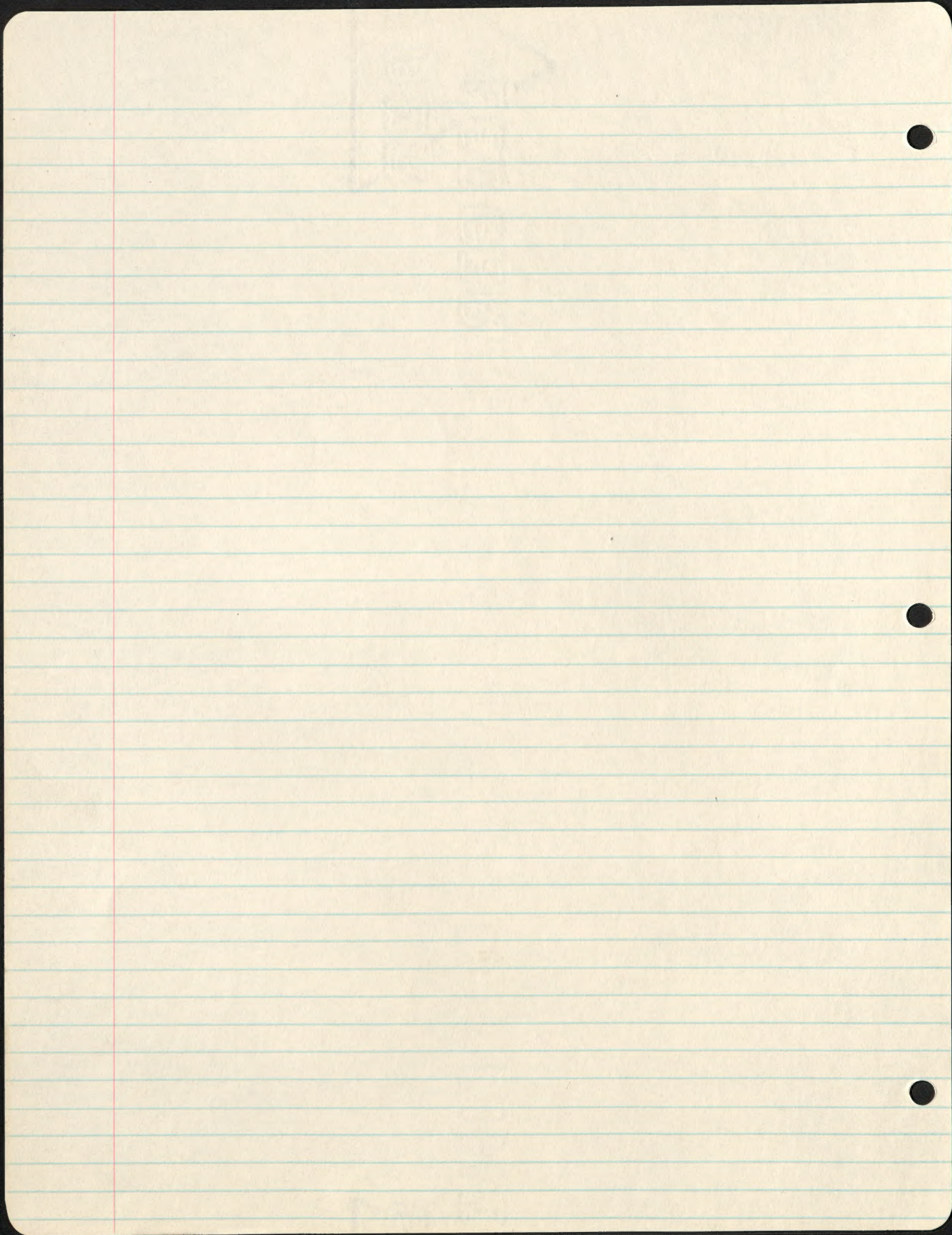
- Apr. 20 Burnard Camp, Idenburg R., Netherlands New Guinea 75 m.
4 shot from beneath a leaf of a fan palm.
It was on the upper flood plain in mixed
primary and secondary forest. The leaf was
som 15 ft above the ground. Two adults were
huddled together and some 30 or 4 inches away the other
adult young. They were awake and watching our
activities but made no attempt to fly away.
- Apr. 22 2 shot by me collecting log this afternoon.
According to ~~me~~ they were hanging up
beneath a small leaf of one of the upper
flood plain trees. ~~the morning~~
- Apr. 23 2 shot by Rudy. He said they were flying
about in the forest.
- Apr. 27 1 shot. Flying high about foliage of
edge of lagoon. It was feeding with many
fast beaks; on erratic flight. There.
- Apr. 28 11 shot. They were hanging up, in 3 different
groups, under large leaves. There were 2 groups of 3,
and 1 of 5 individuals. One group of three had 2 ♂ and
1 ♀ adult. One group had 1 ♂, 2 ♀ 2 young. The other group
had ? . They were hanging up some 5 to 7 feet
above the flood water.
- Apr. 29 2 shot this morning from under a large
fern leaf in the inundated forested
border of the lagoon. They were ~~not~~
hanging up some 4 ft. above the water.
- May 1 5 shot this morning by collecting log.
- May 3 1 shot by collecting log.
- May 4 1 shot yesterday evening. It was flying some 30 ft
above the water along the forested edge of the
lagoon.
- May 7 9 shot. One shot yesterday evening while flying
along tree tops of stream side. The others were
found by collector hanging up beneath leaves
in the forest in groups 4, 2, 1, 1.
- May 8 2 shot yesterday evening flying about forested
lagoon border.



Eptesicus ~~paxillatus~~

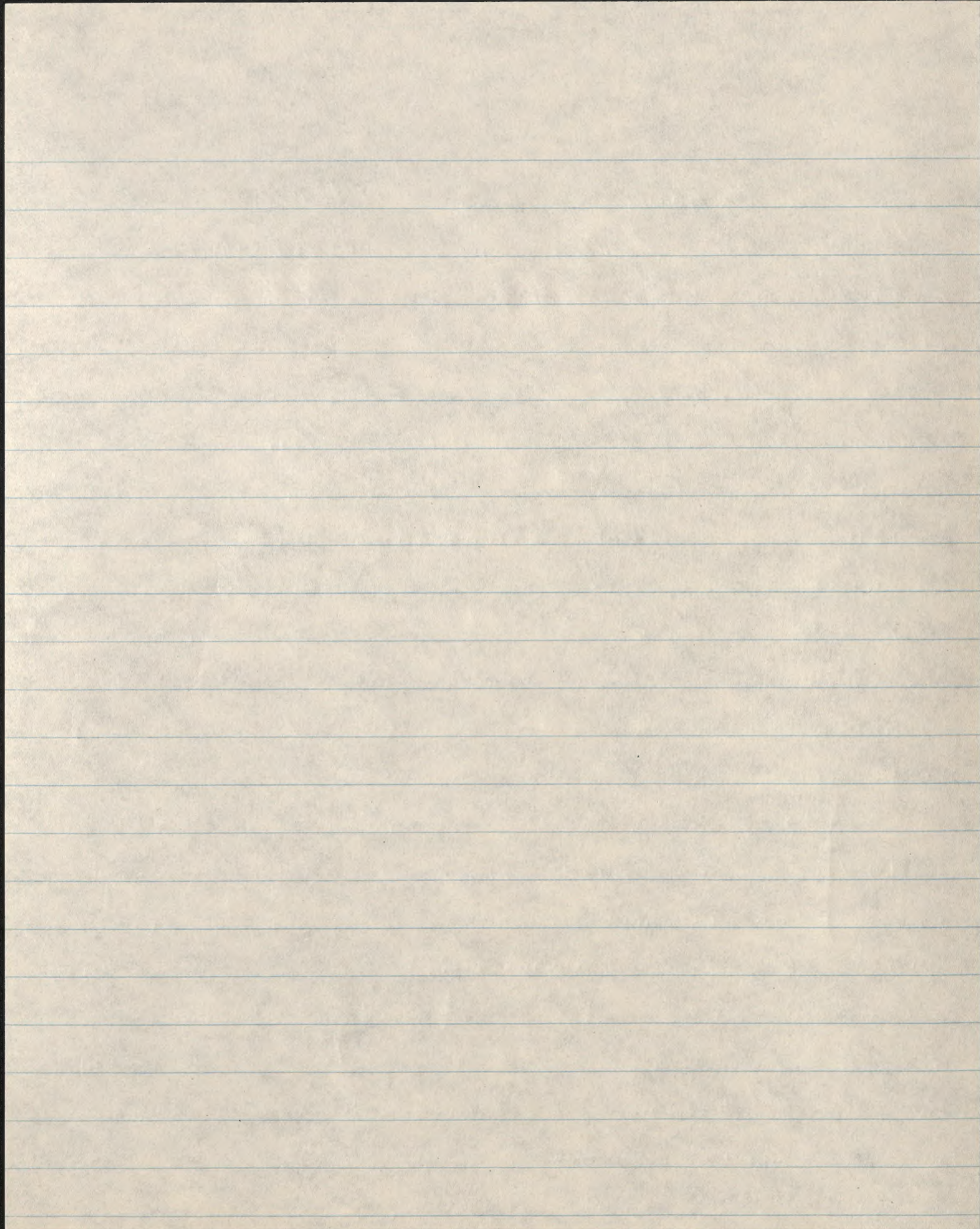
Mar. 11 4 Km. SW Burnland Camp, Moring R., Netherlands New Guinea 850 m.

1 caught yesterday evening by convict. It was taken while flying about camp.



1

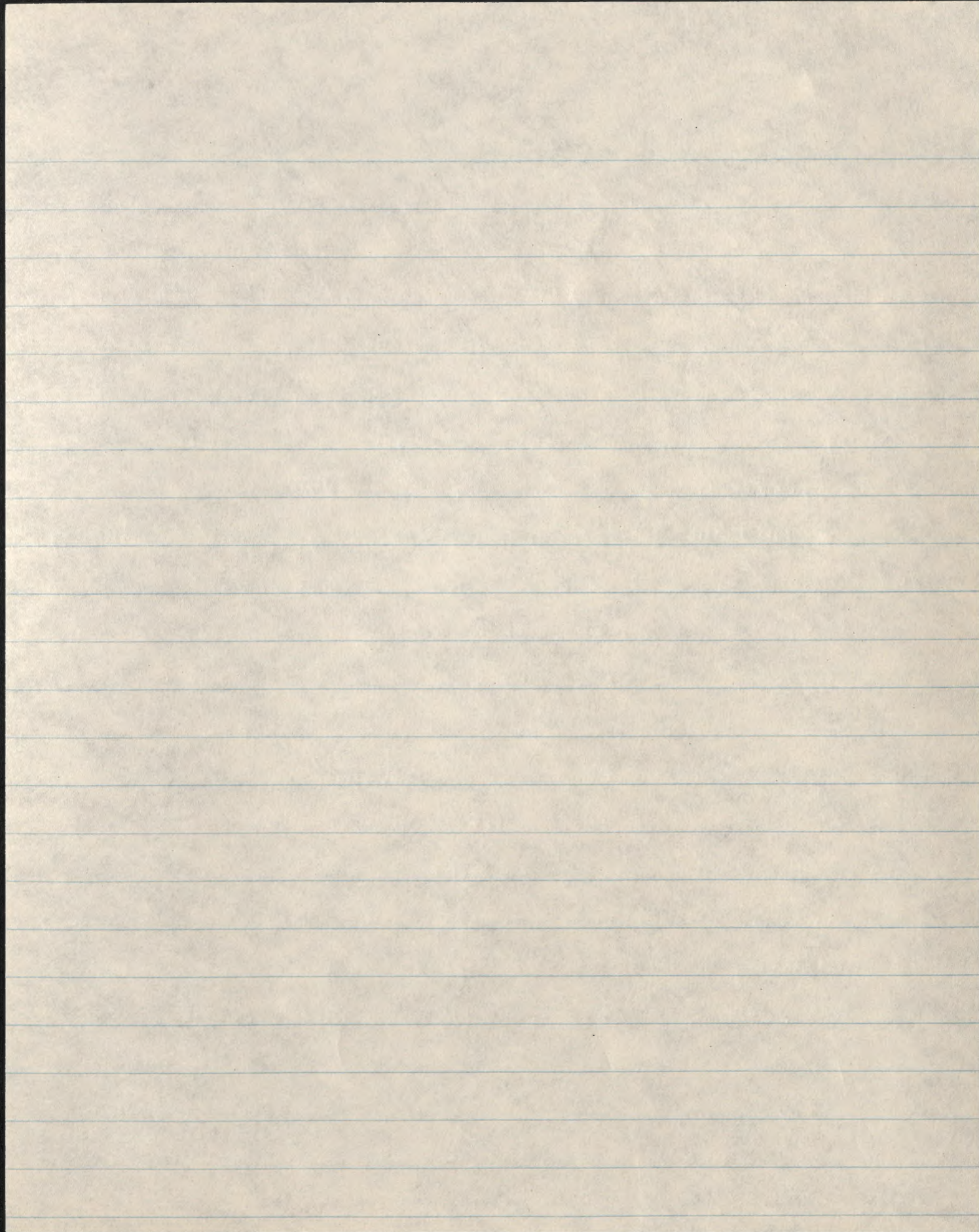
Endromia candata - While at Lake
Khabema four of these small marsupials were
brought in. The habitat was that of the
subalpine forest with the Libocedrus
trees, clumps of Rododendrons and other
shrubs, and its grassy moss floor. These
animals were taken from their nests one
from a moss clump; two from
cavities in the Libocedrus trees;
and the other point of origin was
unknown. The nest from which all
four were taken was constructed in an old
moss clump attached to the side of a dead
Libocedrus tree about nine feet above the
ground. This moss clump, about eighteen
inches in diameter was ^{attached to the tree} held in a compact
mass by the numerous dead and dying
plants which had established themselves
in the structure and roped about the tree.
The nest chamber (3x4 inches) was constructed
in the moss clump and filled with dry
filices of the same material. The entrance was



one inch in diameter leading through the moss
 clings to the top of the nest. There was no
 dung or refuse about the nest. Two individuals
 from the camp were kept alive in ~~suitcase~~
 box cages for a period of one to two days. The
 following information was made from these
 caged animals.

Locomotion — They were very agile climbing
 about with an ease that suggested that
 of either Phalanger maculatus or Pseudocheirus.

As compared with Pseudocheirus
 the digits of the front and
 hind feet have a larger terminal pad and
 a smaller claw. The front feet are not as
 well adapted for grasping, that is the first
 two fingers are less opposable to the other three;
 the grasping ability of the hind feet is
 similar. The tail is used but little in
 climbing and then as a brace or balance
 when going from limb to limb. It is seldom
 used prehensile for this animal depended
 upon the grasp of the feet in climbing on

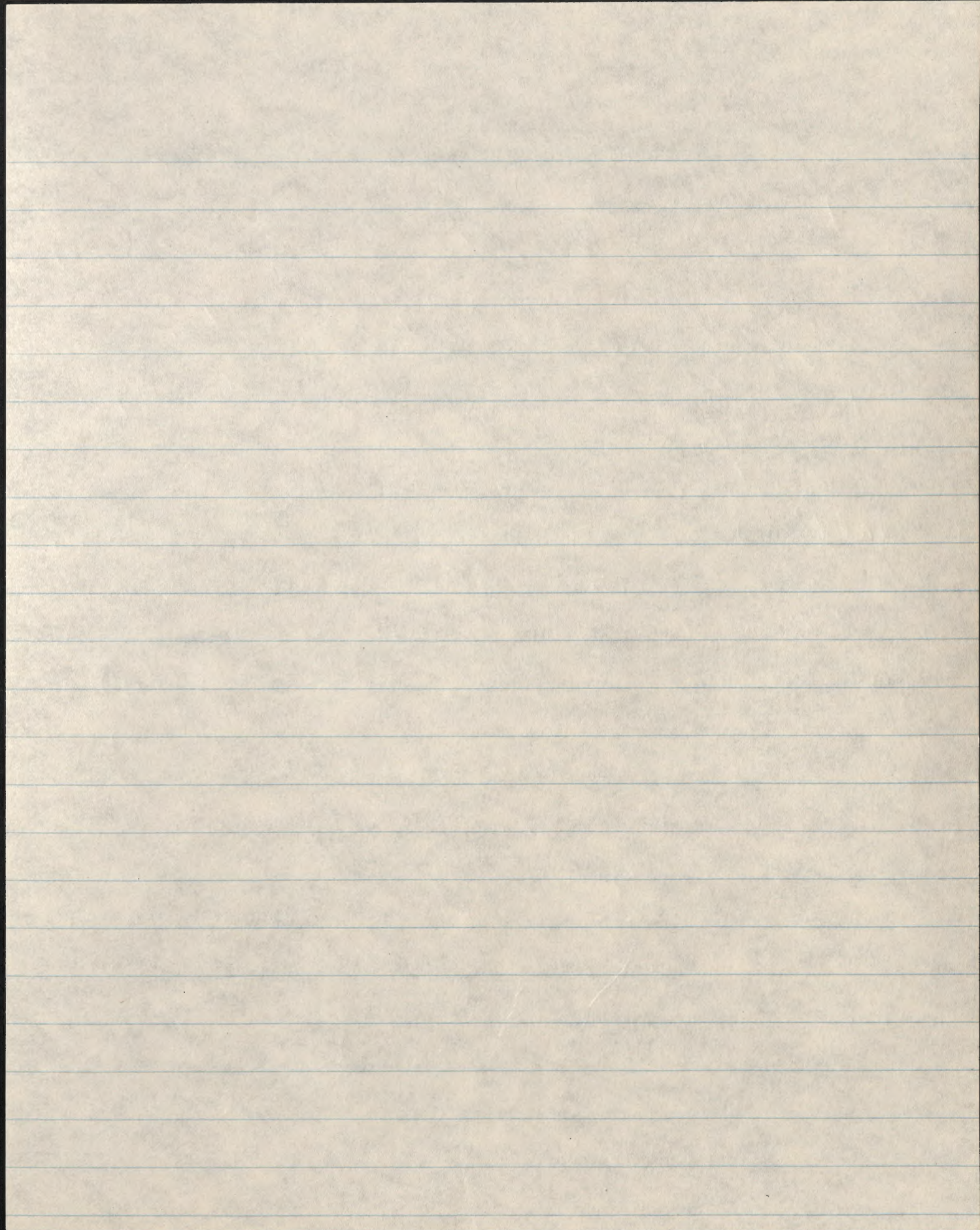


descending a limb.

Voices - I did not hear them utter any sound except an occasional forcing of air out through the nostrils which produced a hissing sound. This occurred only when they were excited.

Food - The fruit of winter green (*Gaultheria*) was the only food these captives would eat. The small blue berries were picked up between their front paws and squirrel-like sitting up on the fleshy parts discarding the seeds and skin.

Two individuals were taken in traps at the 3600 m camp. The traps were set in small runways at the edge of the subalpine vegetation where the uneven terrain of the hill slopes was vegetated with bush clumps, scattered *Salix* trees, and a broken ground cover of moss.

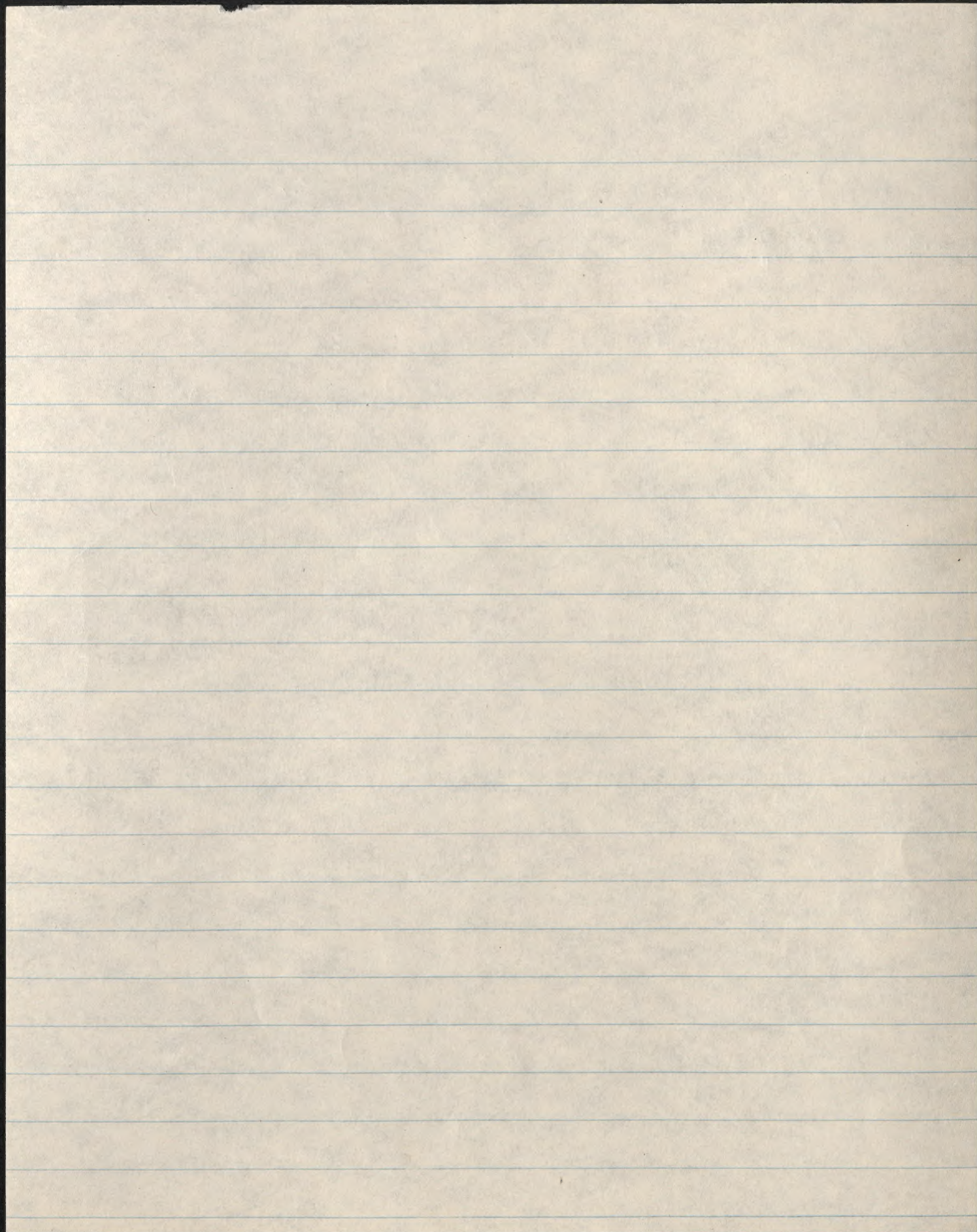


At the 3800 m camp one individual
 was taken in a trap for 150 m above camp
 on a hill slope at the upper edge of a strip of
 strip of sub alpine forest. ~~which was not~~
 The trap was set beneath a Exoprasocera
 but which ~~was~~ during this season was fruiting.
 It is quite possible that it had come there
 to feed. The other animal was taken
 in a trap which

Three individuals were taken from the
 2800 m camp. One brought in by natives. Its
 sized condition would indicate that it had been
 leaved out of a tree. Another was brought in
 by a collector. The third it was taken in a
 trap set on the littered mossy floor of the
 mossy forest. The forest was atypical in that
 the natives had killed many of the trees by ring barking.

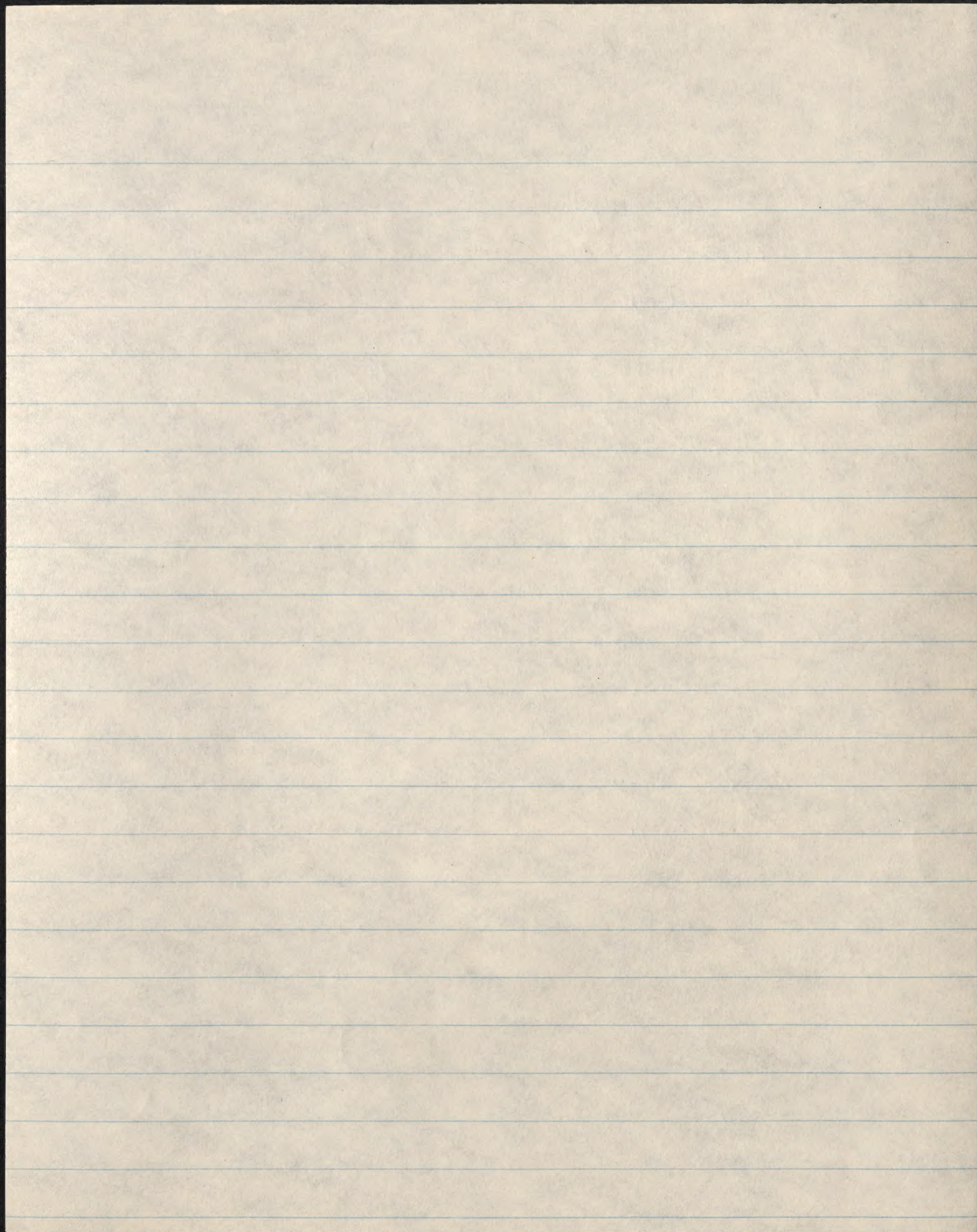
~~different type~~

Sixteen individuals were brought in by
 natives to the Bala River camp. One of these was
 still worn when brought in indicating that
 it had been taken somewhere in the



immediate vicinity.

One individual was taken ^{at} the Balin River camp by a Dyak ^{who captured it alive} with the aid of a native. According to the Dyak story it was taken from a hole in one of the fig trees ^(Ficus) which border the river. These trees were in fruit at this time. The following notes were made while watching the ^{live} animal. The defense attitude was that of raising up on the hind feet, fore feet in front, and the mouth open. The tail was carried while running and the floor of the cage on a large ^{dense} coil (1½ layers) the base of the coil being close to the body. When climbing about the limbs with which the cage was provided, the tail was held at behind with a slight downward curl. It was used as a brace with the objects with which it came in contact rather than as a prehensile organ. It was a very active animal, nearly alert to noise and movement. It died within 24 hours of captivity.



Eudromicia candata. - While at Lake Habbema four of these small marsupials were brought in. The habitat was that of the sub-alpine forest with its Libocedrus trees, clumps of Rhododendron and other shrubs, and its grassy-mossy floor. These animals were taken from their nests or from a moss clump; two from cavities in the Libocedrus trees; and the other's point of origin was unknown. The nest from which the first was taken was constructed in an old moss clump attached to the side of a dead Libocedrus tree about nine feet above the ground. This moss clump, about eighteen inches in diameter, was held to the tree in a compact mass by the numerous dead and dying plants which had established themselves in the structure and were wrapped about the tree. The nest chamber (3x4 inches) was constructed in the moss clump and filled with dry fibers of the same material. The entrance was one inch in diameter, leading through the top of the moss clump to the top of the nest. There was no dung or refuse about the nest. Two individuals from this clump were kept alive in box cages for a period of one to two days. The following information was obtained from these caged animals:

Locomotion. - They were very agile, climbing about with an ease that surpassed that of either Phalanger maculatus or Pseudochurus

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. As compared with Pseudochirus the digits of the front and hind feet have a larger terminal pad and a smaller claw; the front feet are not as well adapted for grasping, that is, the first two fingers are less opposable to the other three; the grasping ability of the hind feet is similar. The tail is used but little in climbing and then as a brace or balance when going from limb to limb. It is seldom used prehensily, for this animal depended on the grasp of the feet in climbing or descending a limb.

Voice. - I did not hear them utter any sound except an occasional forcing of air through the nostrils, which produced a hissing sound. This occurred only when they were excited.

Food. - The fruit of wintergreen (Gaulthina) was the only food these captives would eat. The small blue berries were picked up between their front paws and squirrel-like, sitting up, they ate the fleshy parts, discarding the seeds and skin.

Two individuals were taken in traps at the 3600 m. camp. The traps were set in small runways at the edge of the sub-alpine vegetation, where the uneven terrain of the hill slope was vegetated with bush clumps, scattered Libocedrus trees, and a broken ground cover of moss.

2

At the 3800 m. camp one individual was taken in a trap from 150 m. above camp on a hill slope at the upper edge of a strip of sub-alpine forest. The trap was set beneath a Coprosma bush, which, during this season, was fruiting. It is quite possible that it had come there to feed.

Three individuals were taken from the 2800 m. camp. One brought in by natives. Its singed condition would indicate that it had been burned out of a tree. Another was brought in by a collector. The third was taken in a trap set on the littered mossy floor of the mossy forest. Here the forest was atypical in that the natives had killed many of the trees by ring-barking.

Sixteen individuals were brought in by natives to the Bele River camp. One of these was still warm when brought in, indicating that it had been taken somewhere in the immediate vicinity.

One individual was taken at the Balim River camp by a Dyak who captured it alive with the aid of a native. According to the Dyak's story, it was taken from a hole in one of the big trees (Ficus) which border the river. These trees were in fruit at this time.

At the 2800 m. camp, the following birds were seen:

100 m. above camp on a hill slope with a large tree of a tree of

and a large tree. The tree was seen between a large tree, which

during this season, was a large tree. It is a possibility that it had

some birds in it.

Three individuals were taken from the 2800 m. camp. One was

in a large tree. The bird's condition was a possibility that it had been

burned out of a tree. Another was taken to be a collector. The

bird was taken in a trap set on the highest mossy floor of the mossy

forest. Here the forest was typical in the native and native

many of the trees of the forest.

Between individuals were brought in by natives to the 2800 m. camp.

One of these was taken with a small bird of the forest. The bird was

the bird taken somewhere in the immediate vicinity.

One individual was taken at the 2800 m. camp by a native who

believed to have been a native of the forest. According to the native's

story, it was taken from a hole in the side of a tree (which

could be seen). These trees were in the forest at this time.

The following notes were made while watching this live animal:

The defense attitude was that of rising up on the hind feet, the fore feet in front and the mouth open. The tail was carried while running about the floor of the cage in a large dorsal coil ($1\frac{1}{2}$) the base of the coil being close to the body. When climbing about the ~~xxxx~~ limbs with which the cage was provided, the tail was held ~~at~~ out behind with a slight downward curl. It was used as a brace with the objects with which it came in contact rather than as a prehensile organ. It was a very active animal, keenly alert to noise and movement. It died within 24 hours in captivity.

The following notes were taken during the trip.

The distance between the two points was about 100 miles.

It was found that the road was in good condition.

The weather was very good during the trip.

The trip was very successful.

The trip was very successful.

The trip was very successful.

The trip was very successful.

The trip was very successful.

The trip was very successful.

THE END

Eudromicia

Aug. 4 Lake Habbema, Netherlands New Guinea 3225 m.

① Yesterday afternoon a Dyak brought in a living individual of this genus.

Locomotion: This animal is very agile climbing about with an ease that surpasses *Phlogothraupis* or *Pseudochlorophanes*. The front feet although apparently not as powerful adequate for grasping as *Pseudochlorophanes*. They do however have enlarged terminal ^{digits} pads at which must be of value in grasping rougher surfaces. These pads are well developed whereas the claws are poorly developed. The degree of grasping of the hind foot is similar to that of *Pseudochlorophanes* but differing from the latter in that there are terminal toe pads similar to those of the front feet. The tail is used but little in climbing. It seems to act as a brace when going from limb to limb. It seldom used prehensilely. The animal depends upon the grasping of the feet rather than the prehensile tail for support in climbing or descending limbs.

Voices: I have heard no sound except the occasional sniffing of the heart when excited.

No nest or attempt to construct such in the moss and cotton on the floor of the cage.

Food: Fruit of *Gaultheria*. Only the inner fleshy parts are eaten, the seeds and skin being discarded. The food is eaten by grasping it in the front paws and sitting up to eat much as a squirrel.

Miscellaneous notes: At the time of writing this animal was hanging by its tail from one of the higher vertical cage sticks. Its tail had a complete loop about the 1" diameter stick. One of the hind feet was grasping a smaller lower stick and the other three were free. On disturbing the beast I found that it was dead. It has apparently lost all of its locomotor senses for it is now lying on its side in a curled up position on the floor of the cage. When first taken it was very active spending much of its time running and climbing about the cage. Today it was less active and now it is stupor.

Aug 5 Lake Habbema, Netherlands New Guinea, 3225 m.

The captive died last evening and was prepared as a specimen today.

Aug 11 Lake Habbema, Netherlands New Guinea, 3225 m.

① An individual of this genus was brought in alive this morning by one of the Dyaks who was cutting ~~xxx~~ wood for camp. It took me to the spot where it was taken which is about $\frac{3}{4}$ kilometer of south west from camp. The general region was that of open *Litsea* trees, with scattered clumps of *Indocalamus* and other brush on a grassy moss floor. The nest from which the beast was taken was constructed in an old moss which had become quite solid by the imbrication of roots ~~and~~ of dead or dying plants. The outside of this clump was covered with lichen. Said clump was situated about 3 meters off the ground on a dead tree. The nest itself was about 3 x 4 inches with an entrance at the top through a hole about 1 inch in diameter and 5 inches in length. As near as I could discern there was nothing added to the nest such as lining etc. There was no dung or refuse about the nest. The animal is now being kept alive for observations.

Aug 12

Individual caught last evening yesterday died last evening and was prepared as a skin today.

Aug 18 Lake Habbema, Netherlands New Guinea, 3225 m.

② Yesterday afternoon the two Dyak collectors returned from their hunt with 2 of this species. According to them they were taken in a small room in a dead *Litsea*. The tree was felled and on the log, the larger, escaped through the hole and was of the open forest.

Sept 14 Lake Habbema, Netherlands New Guinea, 3560 m.

1 in 363 traps. Individual according to the

Endromicia

collector who brought it in was taken in small runway at the edge of the sub-alpine forest. A point of interest is that these animals are not in hibernation now as the results from Habbema might show.

Sept 22 2 km NE Wilhelmaville, Netherlands New Guinea 3560 m.
1 in 358 traps. The individual was taken from a trap set in a small runway through a bush in open thick of bush. The region in general was one of bush on open land, scattered trees and grass on a uneven hill slope.

Sept 29 2 km E Mt. Wilhelm, Netherlands New Guinea 3950 m.
1 in 101 traps. Brought in by collector who said it was taken in trap set beneath crosswood bush at or just above the edge of the sub-alpine forest. There are large trees in this region but rather bushy except for the narrow strip of alpine forest which continues along the base of a line above it to or just below where this animal was taken.

Oct 18 9 km NE Lake Habbema, Netherlands New Guinea 2860 m.
1 in 425 traps. Taken in trap set in runway over the mossy forest floor. The general region was that of mossy forest with ~~little~~ scattered undergrowth and dead standing timber.

Oct 30 9 km NE Lake Habbema, Netherlands New Guinea 2800
1 in Taken by collector.

Nov 2 9 km NE Lake Habbema, Netherlands New Guinea 2800
1 brought in by natives. It has apparently been brought out of a tree.

Nov 7 Beli River, 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 13 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by native. It was still warm so would judge that it was taken some where in the immediate vicinity.

Nov 14 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by native.

Nov 16 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by native.

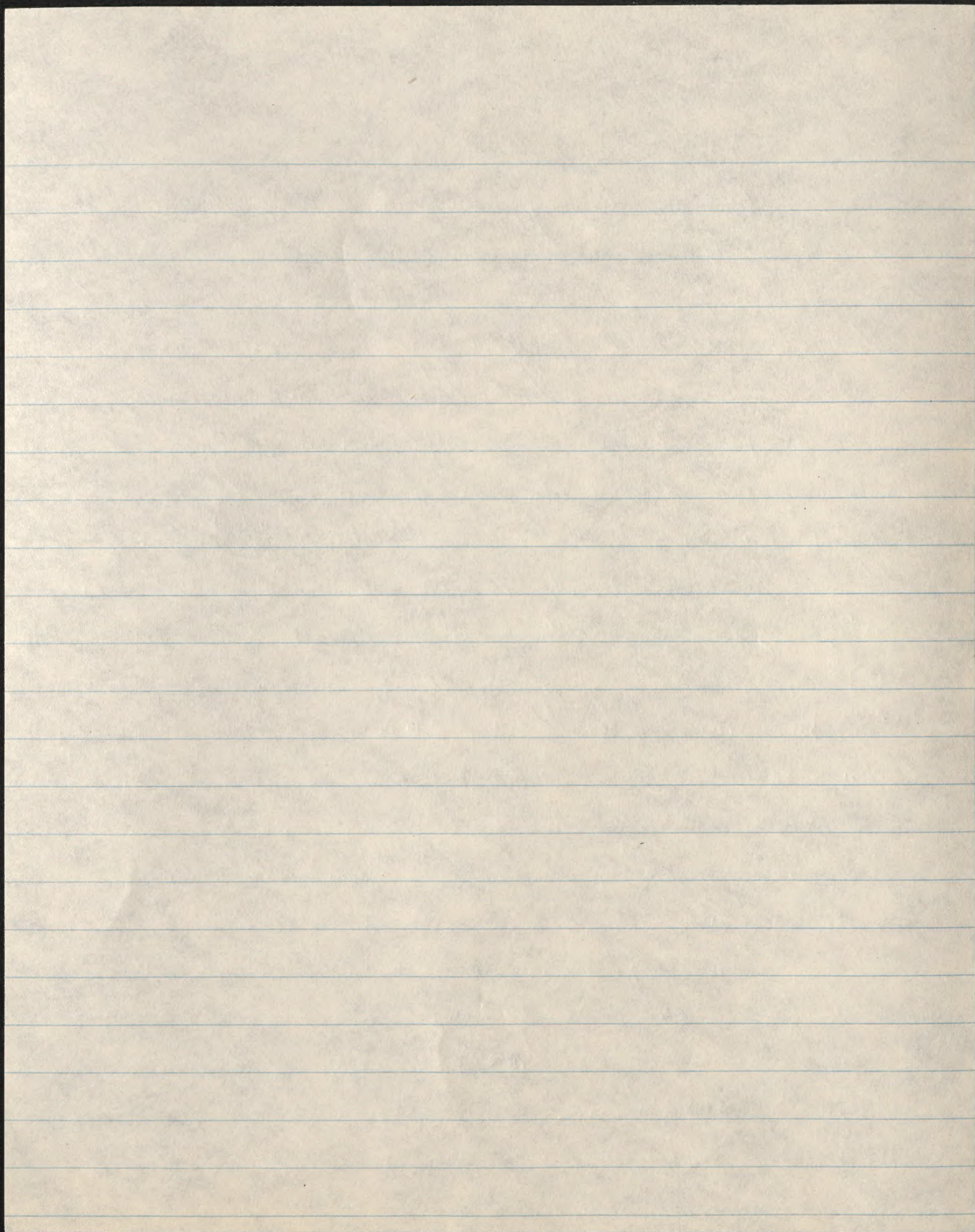
Nov 17 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives

Nov 22 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives

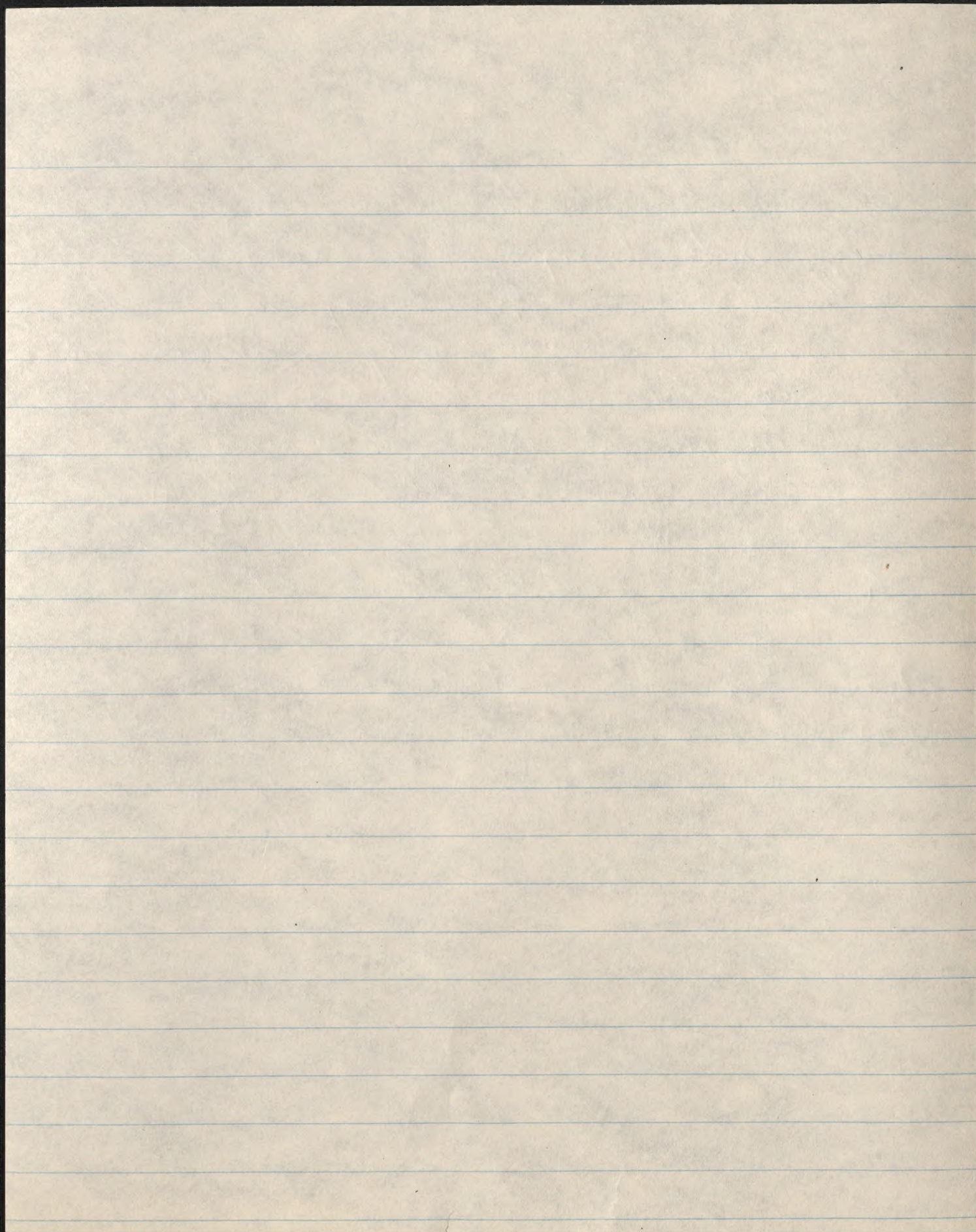
Nov 27 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec 13 Balim R. Netherlands New Guinea, 1600 m.
1 brought in by Dyak who with the aid of a Papuan caught the beast. According to the Dyak story it was taken from a hole in a tree, one of the trees which fringe the river. These trees are principally casuarina and fig, the latter being in fruit. Fruit eating bats, *Syconycterus* feed on these fruits during the night. This animal was brought in alive and so had the opportunity to observe it under unnatural conditions. The following notes were made - Deform attitude was that of raising up on the hind feet, fore feet in front and the mouth agape.
The tail of this beast was carried in a large coil (1 1/2 loops) ^{the base of the tail being close to the body.} This manner of carrying the tail was used only when on the floor of the cage. When climbing about the lumps provided in the cage the tail was carried behind with a ~~slight~~ downward curve, being used as a brace with objects with which it came in contact. It was very active being keenly alert to see and movement. It did not set much resistance provided for it. Died within 24 hrs. of captivity.

1
Haliscia dugesi Two individuals were
purchased from natives near Hollandia. Both
were said to have been killed near the small
islands in Hollandia Bay. The larger female was
estimated as being about three meters in length
and weighing between six and seven hundred
pounds. Measurements made from the small
♀ are as follows. Total length 1650^{mm}; pectoral
length 240^{mm}; mid point between fin to tip of nose
380^{mm}; spread of tail 520^{mm}; tip of tail to anus
530^{mm}; anus to vagina 240^{mm}; maximum width
400^{mm}; maximum depth 370^{mm}. The remains
of some aquatic food plants removed from
the mouth of the smaller animal and preserved
in alcohol have not as yet been determined.
In the stomach of the larger animal there
was approximately five gallons of coarsely
masticated sea vegetation. This was determined
by Mr. Brans as Zostera sp? and a
marine Hydrochord. The native taken
animals were pulled up on the beach at the
north shore of the bay where a native



shelter had been built. Here they were
crudely smoke-drying large chunks of flesh
of other deers. This drying meat and
the numerous bones lying about indicate
that this had been the base camp of
many deer-hunts. The people which
hunted these animals lived outside of the
bay along the coastal villages to the
west. They sought them not only
for their flesh but for the large
front ivory tusk which could be sold to
the Chinese. While those living within the
bay did not hunt the



Halicore dugong. - Two individuals were purchased from natives near Hollandia. Both were said to have been killed near the small islands in Hollandia Bay. The large was estimated as being about 3 meters in length and weighing between 600 and 700 pounds. Measurements made from the small ♀ are as follows: Total 1650 mm.; flipper 240 mm.; mid-point between tip of fin to tip of nose 380 mm.; spread of tail 520 mm.; Tip of tail to anus 530 mm.; anus to vagina 240 mm.; maximum width 400 mm.; maximum depth 370 mm. The remains of some aquatic food plants removed from the mouth of the smaller animal and preserved in alcohol have not as yet been determined. In the stomach of the larger animal there approximately 5 gallons of coarsely masticated sea vegetation. This was determined by Mr. Brass as Zostera sp? and a marine Hydrochoid. These native taken animals were pulled up on the beach at the north shore of the bay where a native shelter had been built. Here they were crudely smoke-drying large chunks of flesh of other dugongs. This drying meat and the numerous bones lying about indicate that this had been the base camp of many dugon hunters. The people who hunted these animals lived outside the bay along in coastal villages to the west, while those living within the bay did not hunt them. They sought them not only for their flesh but for the large front ivory teeth which could be sold to the Chinese.

Ballroom building. Two balconies with glassed in sides facing each other.

Both sides of the building were built on the same level.

The building was built on a hillside and the ground was uneven.

In the center of the building was a large hall with a high ceiling.

From the hall there were several rooms and a large kitchen.

The building was built in 1910 and was one of the best of its kind.

It was built on a hillside and the ground was uneven.

The building was built on a hillside and the ground was uneven.

Removed from the center of the building was a large hall.

The building was built in 1910 and was one of the best of its kind.

The building was built on a hillside and the ground was uneven.

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The building was built on a hillside and the ground was uneven.

Wm B. Richardson
1938

Halicore

June 14 Hollandia Netherlands New Guinea.

Late this morning a note from Mr. Brass notified me that a dragon had, been recently killed at ^{a new} a neighboring fishing camp. I returned with the natives who delivered the note and found a fine large female animal. According to them this animal had been killed east of "Cuyu Poloo" where the bay meets the ocean on the west of the bay. A complete skeleton as well as small bits of stomach contents were obtained. The stomach was well filled (about 5 gallons) of coarsely macerated sea vegetation. The fact that this animal is used for food is apparent not only in the fact that they displayed the flesh of this beast but there was the remains of a small animal which was being smoked over fires in their temporary house. Large chunks of meat having been semi dried in a smoky flame. There were also numerous remains, such as, old bones, of dragons indicating that this had been the base camp for numerous dragon hunts. The people occupying the region at present come from a village along the coast ~~was~~ north of Hollandia. A thing I forgot to mention is that according to the natives, those from "Cuyu Poloo", "Cuyu Bates" and "Tolati" do not eat the flesh. However, the canines teeth are considered valuable as trade to the Chinese aboard the monthly mail boat. The size of the animal was about 3 meters in length and I would guess the weight to be between 6 and 7 hundred pounds. The native name for this animal is -
"Ooung" = Malay Duie = Tolati
Saraqu = Cuyu Poloo and Cuyu Bates.

June 18 Hollandia, Netherlands New Guinea.

Mr. Brass today kindly identified the preserved material saved from the stomach of the dogong taken on June 14. - Zostera sp. and a marine Hydrocharid. No. 8854. Brass's catalogus is an equatorial plant. This did not however seem to be the one eaten (too common) but rather a finer marine plant. This was not preserved because of the absence of fruiting bodies.

June 19 Hollandia, Netherlands New Guinea.

Today, (this morning), several men from Tab la sufa came to answer that they had another dogong. The specimen was in the same temporary fishing camp as the previous animal (June 14). It was a young ♀ (?). According to the fishermen it was taken in the same place as the June 14 animal, ^{east} "north east, (back of) of 'Cayen Batu'".
Some measurements: - Total length 1650; Flipper length 240; Midpoint between fin to tip of nose 380; Spread of tail horizontally 520; Tip of tail to anus 530; Anus to vagina 240; Maximum ~~length~~ width horizontally 400; Maximum width vertically 370.
There was food in the mouth of the animal that is ~~in~~ preserved in alcohol. According to the fishermen which captured this animal it is not used as food by the people living in or about Reynolds Bay; but is eaten by the villages along the coast such as "Tab la sufa", "Tab la nu su", "La car e", "Der men a", "Ya pas ea", "Yon chun", "Moris" and many others. This is evident also by the fact that the bay people do not carry harpoons on their prows while those outside do. This difference in food preference of the natives is not due to the fact that the animals do not occur within the bay, for both the bay people and the outside say that dogongs are plentiful within the bay, several told me that they came at night beneath the houses of the Tab la sufa people.

Hipposideros

June 12

Hollandia, Netherlands New Guinea

Today I revisited the cave previously discovered by Hard and myself. (See General Account Page 17, June 7, 1938). Archbold and myself descended into the cave about 8:30 and remained there for $1\frac{1}{2}$ to 2 hours. We followed the stream course for about 500 yds and turned back without having reached the end. Within 100 ft. of our destination we found a small room 4 ft. wide, 10 ft. long, and 10 ft. high on the limestone roof of which were from 40 to 50 bats hanging. They left immediately after being disturbed with a rock.

This evening I again returned to the entrance of the cave to obtain specimens. I arrived there about 15 minutes past 6:00 and at 5:53 the first bat came out of the cave and after a short flight (50 ft.) returned to the cave. This was duplicated several times during the next 15 seconds and then the full force of the flight began. They emerged from two entrances near each other, at a rate of from 2-4 every second. At first when they emerged they seemed to find it necessary to orient themselves or perhaps become acclimated to the light for they would often fly out one hole and back in the other or take on unnecessary sweeps outside before joining the line of flight southward. As it grew darker there seemed to be little need of this orientation flight, but rather they came immediately into the line of flight. It was also observed that the line of flight was more clearly defined after 5 minutes of after their first emerging. These comments are during the 5 minutes that I watched them seemed to be intent on going to their feeding grounds, only a few were seen feeding en route. I fired a shot into the entrance and obtained two individuals each of a different species. While wiggling on my belly into the entrance of the cave looking for other bats that I might have killed I saw a snake about a foot long, a slender animal looking much like an eel, with small swallowing a bat. The tips of the wings were still protruding from its mouth. I was unable to obtain it for a specimen.

later on I obtained two more bats, one of each species by knocking them down with sticks.

June 15 Hollandia, Netherlands New Guinea.

Today I revisited the bat cave and obtained one specimen by catching it with a stick as it emerged from the entrance. When I arrived ^{6:04} there was a rapid flight from the two entrances averaging about 10 bats each ~~per~~ second. A definite orientation ^{of the bats} was observed as they emerged, usually flying about in a low circle and into the line of flight to the south. 25% however showed no sign of orientation but rather broke immediately into the flight line.

June 16 Hollandia, Netherlands New Guinea.

Returned this evening to the bat cave. At 6:00 when I appeared on the scene there was a strong flight. At first I was unable to obtain any of the individuals but later in the evening 6:30 - 7:00 I obtained 12 by knocking them down with a stick as they emerged from the cave. I obtained the snake which I assume was the same one previously seen in the cave swallowing bats (a bat). It was coiled along a crack in the limestone wall in the first small room, 4 feet from the entrance. It was within 5 ft of the same locality that I observed it previously. During the bat tonight I found two embryos within two bats. One embryo per bat. Both the snake and embryos are being preserved.

June 17 Hollandia, Netherlands New Guinea.

This morning I sent my two Papuan collectors into the jungle and they returned two hours later with two bats. According to them they had

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1938

2

Hipposideros

taken them from a hole in a tree. As nearly as I can distinguish they are the same species as those taken at the mouth of the cave. The jungle from which they were taken is about 1 kilometer north of Hollandia, elev 100 m.

Names of bats in the three different local languages.

Kawa (Clawer) - Malay

Padja - Sentani

Higgy - Isakati

June 20 Hollandia, Netherlands New Guinea.

This evening my two Pysman collectors returned from the bat cave with 14 individuals, 3 of one species - 11 of the other.

June 20 Hollandia, Netherlands New Guinea.

This evening I attempted to follow the line of flight of the bats from their entrance of the cave to ^(the edge of the jungle) the line was plainly seen crossing the trail to Sentani about 150 yds south of van Seilens. This is about 100 yds from the entrance of the cave. From there the line was plainly seen and subsequently followed ~~west~~ south west diagonally up the low stone hill. The trail was lost after following the trail about 200 yds, up 75 meters. This loss of the trail was due to two factors a decrease in light intensity and a decrease in the number of bats. When I returned to the cave the line crossed the trail at 8:45 there were only two bats seen and these going in the reverse direction. It is quite possible that they were not bats of the flight line. The jungle through which the line of flight passed is a cut over rain forest with a heavy undergrowth of thickly foliated small trees. It is quite possible that this type of vegetation is desirable because of the darkness beneath and the early exit of the bats.

July 1 Kallardis, Netherlands New Guinea

This evening I again attempted to follow the line of flight of the bats. At 5:45 there was no evidence of their coming from the cave. I proceeded ^{up} the hill to the vicinity of the forest where the trail was lost yesterday evening. 6:00 found the line ^{up} proceeded to follow. It continued up the hill turning slightly to almost a due ^{westerly} direction or possibly a little north of ~~west~~ west, over several ^{small} spurs, 50 ft. below the top on the north side of the hill and here the trail was lost again. It ^{seems} as if it appears to be that the line of flight gradually dissolves and is less compact than it is at the entrance or near the entrance of the cave. I hope that further observation will clear this point up. Took one individual from line (it is to be prepared tomorrow)

July 2 Kallardis, Netherlands New Guinea

This evening I again took up the trail where I lost it yesterday. The first bat was seen on the north side of the hill 100 ft. below the top at 6:03. The flight was slow and irregular in regards to the number and route of travel. They were spread out over 100 ft of hill slope and as they flew along they seemed to occasionally feed. I followed the trail for 250 yds to the west. The difference in the ^{line} flight at the entrance or near the entrance and $\frac{3}{4}$ kilometer distant is: They are flying higher ^(about) line is broader (100-150 ft), and there appears to be less individuals in the line. This difference may be due to one or all of the following factors: High jungle, less undergrowth, or decrease in light intensity. This evening I obtained another bat from the line of flight (to be prepared tomorrow). It is one of the common species.

Hipposideros

Field identification indicates that there are two species in the cave. The least common appears at the exit of the cave with the earlier of the more numerous one. This is apparent from our collecting at various times during the evening at this exit. It is quite possible now that the least common leaves the line immediately or near the first of the line of flight thus leaving the more common to proceed on alone. This may account for the decrease in numbers of bats along the line. Took another individual from the line of flight. (#109)

July 4 Hollandia, Netherlands New Guinea.

Yesterday evening one of my Dyaks found a single specimen in the grass. It was fluttering in a grassy patch near the mouth of the river $\frac{1}{2}$ kilometer north east of Hollandia. I cannot explain satisfactorily what it was doing in the grass unless it was driven there by our lights and a gun shot which must have passed within a few (300 yds) of it.
#4112.

July 15 Hollandia, Netherlands New Guinea

Yesterday afternoon the 2 Malay manders and I went into the bat cave 1 km. S.W. of Hollandia. It is the same one near Van Saublen that I have previously visited many times. We obtained 13 bats, 4 sp. *Hipposideros* and 1 sp. *Rhinolophus*. We went into the cave about $\frac{3}{4}$ km., about $\frac{1}{2}$ again as far as Archibald and I had previously gone in. The small room where we had previously found bats was vacant but near the end of our journey there were large rooms. Here bats hung in numbers each segregated from the others. In the cave I did not differentiate the different species. The manner of obtaining the bats was by knocking them down with sticks as they flew past

1938
1939

was. This was not entirely satisfactory for many were out of reach or too quick for us.

In the evening I sent my two Papuan collectors to the mouth of the cave for bats. They were to knock them down as they came out. They returned to camp with three bats 2 sp. Hypsignathus and 1 Rhinolophus. They did not obtain either of the smaller Hypsignathus that had previously been taken at the cave entrance and along the line of flight.

July 16 Hollandia, Netherlands New Guinea.

The six individuals prepared today were brought in by Tobati boys who said they had taken them in ^{or about} their camp (village).

July 17 Hollandia, Netherlands New Guinea.

Papuan brought in a can containing 75 or more of the genera (2 sp.) of bats and one Emballonura. According to them they were collected "on the top" and at the same time pointed in the direction of the limestone hills south west of Hollandia.

July 18 Hollandia, Netherlands New Guinea. ^{see list}
Specimen #4475 ~~and~~ including #4502

were ~~by~~ brought in yesterday by a Papuan. (See above notes) #4503 to and including #4517 were collected by Papuan collectors at the mouth of the bat cave.

Apr. 13 Beanderd Camp Idenburg R., Netherlands New Guinea 75m.

3 individuals ^{which were lying on the ground} shot out of a hollow log. This log was some 3 feet through with a hole of 2 to 1 1/2 ft. diameter. It was ^{very} dry semi-dark ~~rest~~ resting place. ^{Had been used for long time.} All of the individuals were obtained and on examining them it seems as though they are ♀s with subadult young (?). At the entrance of the log hollow was a viper-like snake. Examined stomach of snake but it was empty.

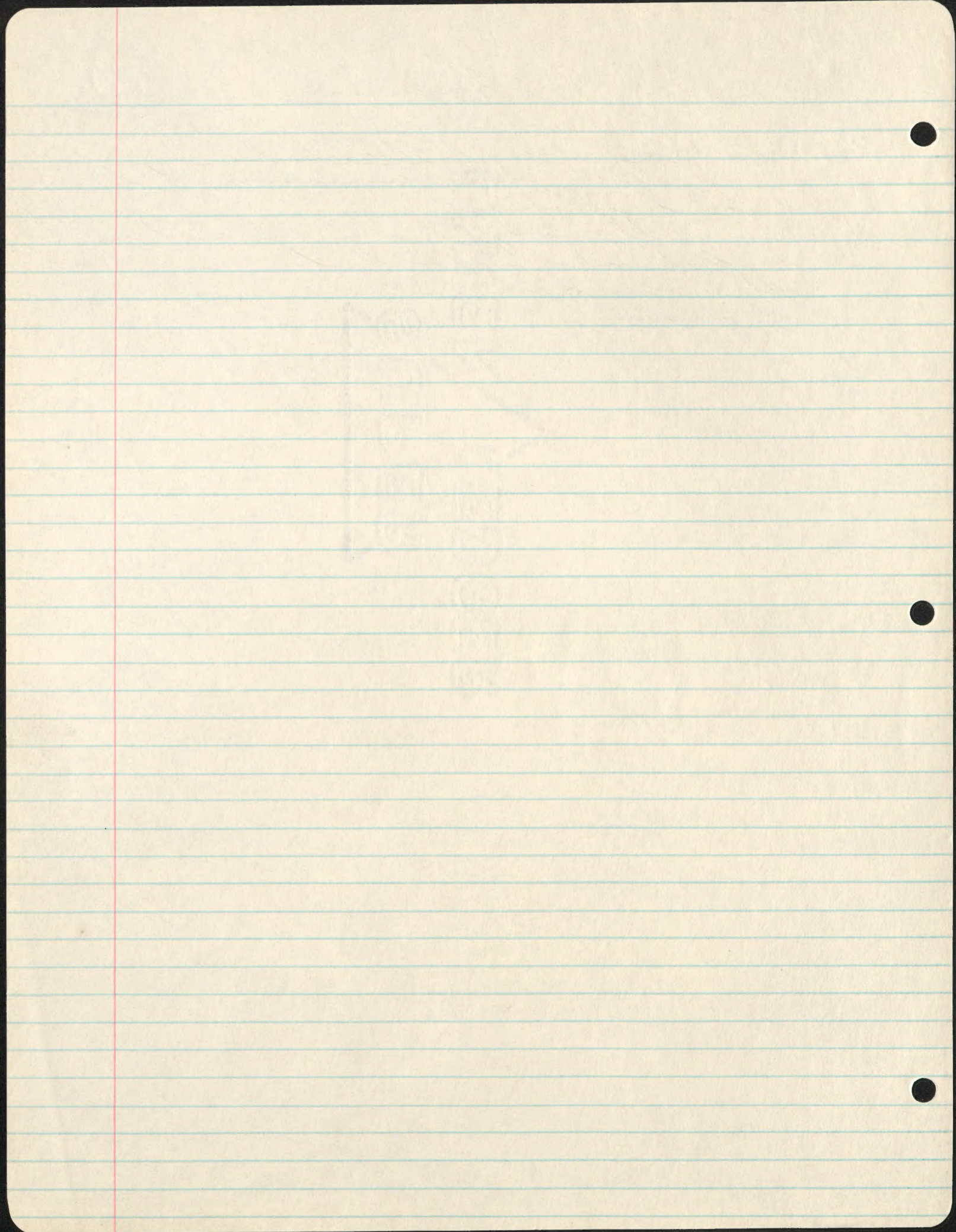
Hyposideros

Apr. 20 Bertrand Camps Idenburg R. Netherlands New Guinea 75 m.

1 shot by collecting boy. According to him
it was hanging ^{singly} under a log.

Apr. 24

4 shot. Two by Rando collecting boys. Said to have
been found under a leaf in the forest. Two
shot in grasshopper garden. They were hanging
to the atap roof.



Hydromys asper

W.B.P.

Catalog No.	Original No.	Collector	Locality Netherlands New Guinea	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
151462	6158	Archbold + Richardson	Bele R., 18 Km. N Lake Habbema 2200	Nov. 26, 1938	a ♂	530	277	54	11	253
151465	6206	"	" " "	Nov. 27, "	a ♂	525	265	53	12	260
151460	6108	"	" " "	" 25, "	a ♂	513	280	55	10	233
151373	5838	"	" " "	" 19, "	a ♂	513	279	52	13	234
151461	6146	"	" " "	" 26 "	a ♂	503	268	59	11	235
151381	5258	"	9 Km. NE Lake Habbema 2700	Oct. 27, "	a ♂	493	268	55	12	225
151467	7042	"	Bele R. 18 Km. N Lake Habbema 2200	Dec. 2, "	j ♂	457	240	51	12	217
151459	5924	"	" " "	Nov. 21, "	s ♂	442	288	58	10	154
110075	5254	"	9 Km. NE Lake Habbema 2800	Oct. 27, "	j ♂	441	230	52	11	211
151372	5697	"	Bele R. 18 Km. N Lake Habbema 2200	Nov. 17, "	a ♀	542	285	54	10	257
151468	7098	"	" " "	Dec 3, "	a ♀	520	273	52	11	247
151380	5218	"	9 Km. NE Lake Habbema 2800	Oct. 24, "	a ♀	510	270	52	12	240
151466	6244	"	Bele R. 18 Km. N Lake Habbema 2200	Nov. 29, "	s ♀	500	270	52	11	230
151463	6159	"	" " "	" 26, "	s ♀	458	237	49	11	221
152070	7516	"	6 Km. SW Bernhard Camp, Idenburg R. 1200	Feb. 18, 1939	a ♂	496	263	52	12	233
152071	7598	measured by collector	10 Km. SW " " 1500	Feb. 28, 1939	a ♀	530	285	50	13	245

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Hydromys asper

W.B.R.

Catalogue No.	Total length	Condylar length	Basilar length	Zygomatic breadth	Temporal constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth			
151462	48.2	47.3	40.2	26.6	8.5	20.9	15.6	12.6	12.8	26.7	23.2	5.0	3.0	13.6	9.5	3.6			
151465	49.2	48.3	40.5	27.1	8.1	21.3	15.7	12.3	13.2	27.1	23.4	5.8	3.1	13.7	9.4	3.6			
151460	48.0	47.2	39.3	27.6	8.3	21.6	15.3	12.6	12.8	26.0	22.4	5.0	2.8	13.0	9.1	3.3			
151373	48.0	47.2	39.8	26.9	9.0	22.1	14.4	11.9	12.7	26.8	23.2	4.8	2.0	13.4	9.4	3.8			
151461	46.9	46.0	38.3	26.2	8.8	21.3	14.5	12.5	11.8	25.8	22.0	4.2	2.4	12.8	9.5	3.5			
151381	47.8	47.0	39.1	26.0	8.2	21.6	14.0	11.9	12.8	26.3	22.5	5.4	3.2	13.2	9.0	3.5			
151467	—	—	—	—	9.1	—	14.5	11.7	11.6	25.0	21.4	4.7	2.7	12.9	9.8	3.7			
151459	49.2	48.7	41.2	27.8	8.8	22.0	15.8	13.5	13.3	27.4	23.6	4.9	3.1	13.6	9.4	3.5			
110075	43.5	42.7	35.7	24.9	9.4	20.5	13.1	11.6	11.3	24.1	20.5	4.1	2.5	12.7	9.1	3.4			
151372	47.5	47.4	39.8	—	7.6	21.6	14.3	11.7	12.7	26.7	22.8	5.2	2.6	12.3	8.8	3.4			
151468	47.8	46.3	38.8	27.0	8.9	21.4	13.9	12.5	11.9	25.7	22.0	4.9	2.6	13.0	9.1	3.5			
151380	48.4	48.2	40.7	26.6	8.0	21.7	14.4	11.4	13.5	27.0	23.5	5.0	2.4	12.7	9.0	3.1			
151466	45.7	44.6	40.5	25.6	8.4	20.5	14.1	11.9	12.2	25.3	21.9	5.1	2.7	12.4	9.0	3.5			
151463	44.7	43.6	36.8	25.2	8.5	20.6	14.3	11.0	11.0	24.9	21.5	4.6	2.5	12.5	9.1	3.5			
152070	48.2	47.2	39.2	26.8	8.9	21.6	14.5	12.9	12.8	25.9	22.1	4.9	2.5	13.1	9.4	3.4			
152071	48.8	48.4	41.4	26.4	8.5	21.8	14.0	12.8	13.6	26.9	23.3	5.6	3.1	13.1	9.5	3.4			

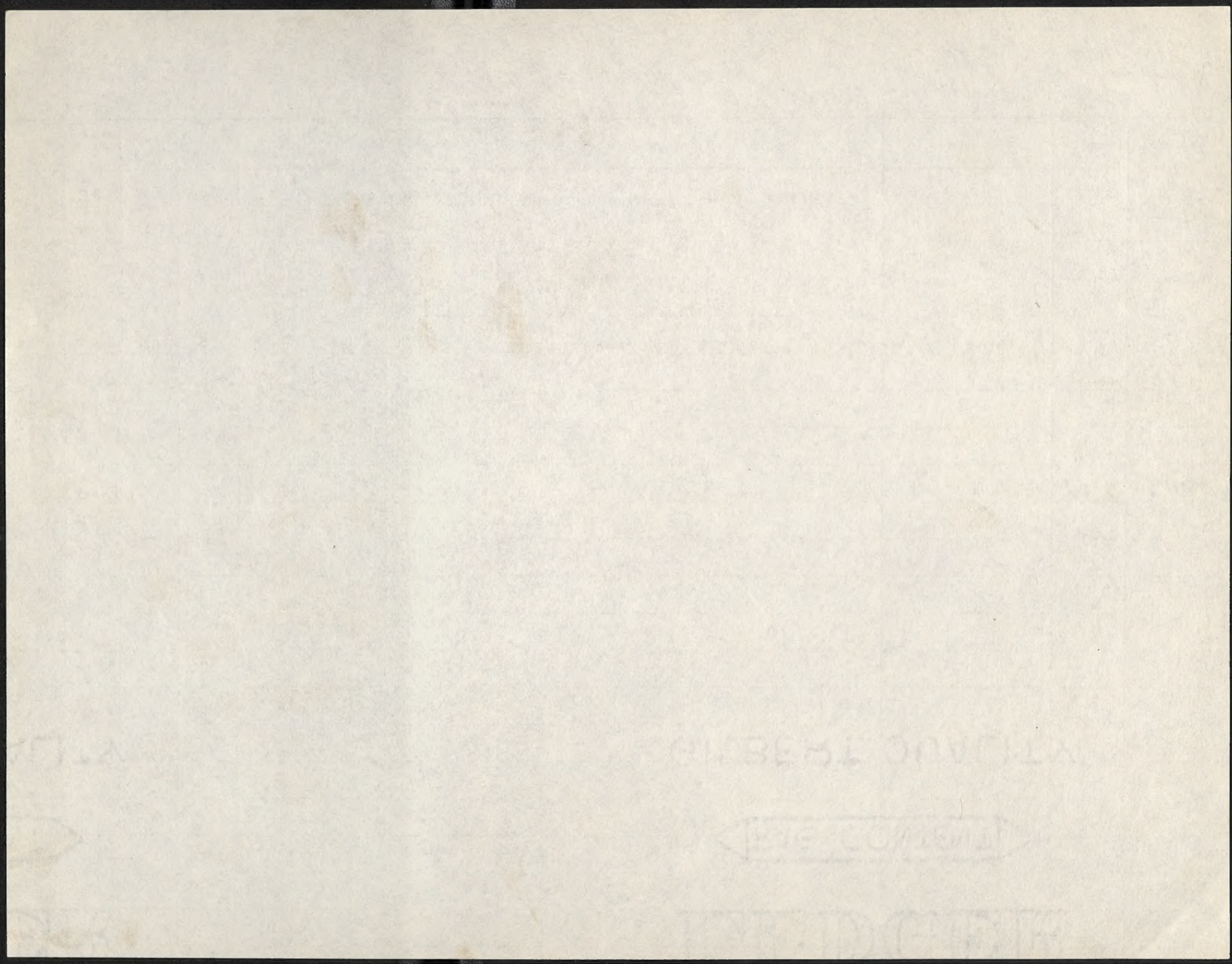
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Hydromys asper

W.B.R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
103256	548	G. Stein	Weyland geb.	Sept. 9, 1931	^s ♂	472	250	54	16	222
103255	545	"	"	" 2, "	^a ♀	489	241	48	15	248
101950	172	F. Shaw Mayer	The Gebroeders, Weyland Range ^{6000 ft.}	Aug. 16, 1930	^j ♀	465	258	48	15	207
101951	220	"	"	Aug 22, "	^a ♀	431	231	48	16	200
108468	3762	Archbold + Tate	^{Papua, C.D.} Kagi. (Leili creek), Kokoda Rd., 1300	Mar. 11, 1937	^a ♂	525	290	53	13	235
108469	3763	"	"	"	^a ♀	523	285	51	12	238



Hydromys asper

W.B.R.

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ORIGINAL

RECEIVED

CLERK

W.B.R.

Catalogue No.	Total length	Condylobasal length	Basilar length	Zygomatic breadth	Temporal constriction	Mastoid breadth	Nasal length	Nostril breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth
105201	56.5	56.3	46.8	27.1	7.3	22.1	18.8	11.2	16.1	31.3	26.0	6.2	4.0	—	8.9	2.9
105776	50.3	50.0	40.8	24.8	6.9	20.2	16.4	10.0	13.4	27.2	22.3	5.6	3.5	10.4	7.6	2.8
105774	—	48.0	39.7	24.0	6.8	—	15.5	9.2	13.3	26.4	22.1	5.5	2.8	10.5	8.1	2.8
105773	—	—	—	24.1	6.9	—	15.4	9.6	13.7	26.8	22.3	6.0	3.3	11.0	8.0	2.9
105772	—	—	—	21.5	7.4	—	—	8.1	12.0	24.4	20.4	5.2	3.0	10.2	7.8	2.8
105775	—	—	—	—	—	19.0	—	—	—	—	—	—	—	—	7.8	2.8
105777	46.1	46.0	38.6	22.5	7.4	18.2	—	8.4	12.5	25.5	21.2	5.2	2.8	10.2	7.8	2.7
105779	48.9	48.5	40.4	—	6.6	19.4	16.1	9.7	13.7	26.5	22.0	5.5	3.3	10.8	7.8	2.8
105778	44.8	44.1	37.0	21.7	7.5	18.0	14.1	8.8	12.2	24.1	20.3	5.2	3.2	10.2	7.5	2.7
105780	44.0	43.2	36.0	21.6	6.8	18.5	14.0	8.4	12.0	23.7	20.0	4.8	2.7	10.0	7.5	2.8
105781	39.8	39.4	—	19.5	6.9	17.1	12.9	8.0	10.4	22.0	18.7	4.8	2.9	—	7.7	2.7
105782	45.0	44.2	36.7	22.8	7.2	18.5	14.9	8.8	12.1	24.2	20.1	5.0	2.7	10.8	7.7	2.7

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Hydromys chrysogaster

W.B. R.

Catalog No.	Original No.	Collector	Locality Papua W. D.	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
105201	2498	Archbold + Tate	1 mi. below mouth Black R. Upper Fly	July 25, 1936	^{a.} ♂	553	300	61	13	253
x										
105776	2751	"	Lake Daviumbu, Middle Fly	Sept. 12, "	^{s.} ♂	480	235	54	—	245
105774	2631	"	"	Aug. 28, "	^{a.} ♂	465	225	50	—	240
105773	2627	"	"	Aug. 27, "	^{s.} ♂	435	200	47	—	235
105772	2611	"	"	Aug. 26, "	^{j.} ♂	392	191	47	—	201
105775	2748	"	"	Sept. 12, "	^{s.} ♀	460	225	52	—	235
105777	27 ⁵ 85	"	"	Sept. 16, "	^{s.} ♀	428	212	50	14	216
105779	3054	"	N. bank opp. Sturt Isl., Fly	Oct. 24, "	^{a.} ♂	450	230	54	14	220
105778	2944	"	"	Oct. 9, "	^{s.} ♀	405	187	44		218
105780	3062	"	"	Oct. 25, "	^{s.} ♀	405	199	47	15	206
105781	3191	"	East bank, Gaima, Fly	Nov. 20, "	^{j.} ♀	308	152	39	13.5	156
105782	3273	"	Wasi Kussa: Tarara	Dec. 12, "	^{s.} ♂	415	205	47	13	210

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Hydromys chrysogaster

W.B.R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
108470	3617	Archbold + Tate	Baruari rest house, Astrolabe Range, Papua C.D. ⁵²⁰	Feb. 18, 1937	^s ♂	480	235	52	15	245
152072	7631	Archbold + Richardson	4 km. SW Bernhard Camp, Idenburg R. 850	Mar. 8, 1939	^{a.} ♂	510	254	54	14	256
152073	7725	"	" "	Mar 24, 1939	^{a.} ♂	505	245	55	15	260
152076	7809	"	" "	Apr. 6, "	^{a.} ♂	477	234	53	15	243
152074	7782	"	" "	" 2, "	^{a.} ♂	467	227	54	13	240
152075	7794	"	" "	" 3, "	^s ♀	466	222	49	—	244
152078	7970	"	Idenburg River, Bernhard Camp 75	" 30, "	^{a.} ♂	480	228	54	16	252
152077	7945	"	" " 50	" 27, "	^{s.} ♂	408	160	47	13	248
10950 ³	7266	"	Hollandia	0 Dec. 27, 1938	^{a.} ?	—	—	—	—	—

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Hydromys chrysogaster

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Neohydromys

Dark color phase ♂ and ♀

W.B.R.

Catalog No.	Original No.	Collector	Locality Netherlands New Guinea	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
110060	4752	Archbold & Richardson	Lake Habbema 3225	Aug 20, 1938	♂ ^{a.}	337	182	37	9	155
110061	4753	"	" "	" 20, "	♂ ^{s.a.}	331	185	37	8	144
110078	5071	Measured by collector	7km. NE Wilhelmina top 3560	Sept. 24, "	♂ ^{a.}	329	167	36	6	162
110051	4701	"	Lake Habbema 3225	Aug. 14 "	♂ ^{s.a.}	322	166	36	8	156
110071	4835	"	" "	" 27, "	♂ ^{a.}	322	175	37	8	147
110073	4844	"	" "	" 28, "	♂ ^{s.a.}	317	171	36	8	146
110069	4824	"	" "	" 25 "	♂ ^{s.a.}	300	156	35	8	144
110062	4765	"	" "	" 21 "	♂ ^{s.a.}	295	149	33	10	146
110068	4814	"	" "	" 24 "	♂ ^{s.a.}	294	145	36	8	149
110076	4858	"	7km. NE Wilhelmina top 3600	Sept. 8, "	♀ ^{a.}	313	160	35	7	153
110072	4836	"	Lake Habbema 3225	Aug. 27, "	♀ ^{a.}	305	162	35	8	143
110077	5055	Measured by collector	7km. NE Wilhelmina top 3560	Sept. 23, "	♀ ^{s.a.}	290	154	35	8	136
110079	5085	Measured by collector	" "	" 27, "	♀ ^{a.}	274	130	35	8	144
110048	4585	"	Lake Habbema 3225	Aug 4, "	Juv. ♀	209	100	30	7	109
110066	4798	"	" "	23 "	Juv. ♀	190	90	27	6	100

GILBERT CASTLE

THE GILBERT CASTLE

THE GILBERT CASTLE

THE GILBERT CASTLE

Neohydromys
Dark colored phase ♂ and ♀.

W.B.P.

Catalogue No.	Total length	Condylar basal length	Basilar length	Zygomatic breadth	Temporal constriction	Mastoid breadth	Nasal length	Nostril breadth, greatest	Diastrama	Palatal length	Palatilar length	Incisive foramina, length	Incisive foramina, breadth	Greatest width outside molars	Molar row length	Molar row breadth
110060	35.5	35.0	28.7	17.7	5.5	15.4	11.7	6.5	9.3	18.3	15.3	4.4	2.5	7.8	5.4	1.9
110061	34.2	34.2	28.2	17.2	5.7	—	11.0	6.1	8.6	18.0	14.9	3.8	2.4	7.5	5.2	1.8
110078	35.1	34.5	—	—	5.3	—	—	6.1	9.1	18.1	14.9	4.2	2.3	8.1	5.1	1.9
110051	34.4	34.0	28.0	16.9	5.6	14.8	11.7	6.1	8.7	17.5	14.6	4.2	2.4	7.5	5.3	1.8
110071	—	—	—	—	5.5	—	11.7	5.8	9.0	18.2	15.4	4.0	2.3	7.5	5.2	1.8
110073	—	—	—	17.3	5.5	15.0	—	—	—	—	—	—	—	7.0	5.3	1.9
110069	—	—	—	16.9	5.6	—	10.8	6.0	8.1	17.1	14.1	4.0	2.4	7.2	5.2	2.0
110062	—	—	—	16.3	5.8	—	10.0	—	8.0	16.6	14.0	3.8	—	—	5.3	1.9
110068	—	—	—	16.9	5.4	—	11.5	5.6	8.8	17.5	14.3	4.1	2.1	7.4	5.1	1.7
110076	34.0	33.3	27.7	17.0	5.3	15.3	11.3	5.8	8.9	17.5	14.7	4.0	2.3	8.1	5.3	1.8
110072	34.2	33.0	26.6	16.9	5.5	14.8	11.8	5.8	8.5	17.1	14.2	4.2	2.3	7.3	4.9	1.7
110077	33.9	33.3	27.4	17.4	5.3	15.3	—	—	8.2	17.3	14.2	4.0	—	7.6	5.2	1.8
110079	34.7	34.7	28.7	17.5	5.3	15.4	11.9	6.2	—	18.0	15.0	4.5	2.4	—	—	—
110048	30.0	28.2	22.9	—	5.7	—	8.9	5.3	7.2	15.3	13.0	3.4	2.0	7.0	5.0	1.8
110066	27.7	26.2	21.6	—	5.4	12.8	8.2	5.3	6.3	13.3	11.1	2.9	2.0	6.8	5.0	1.8

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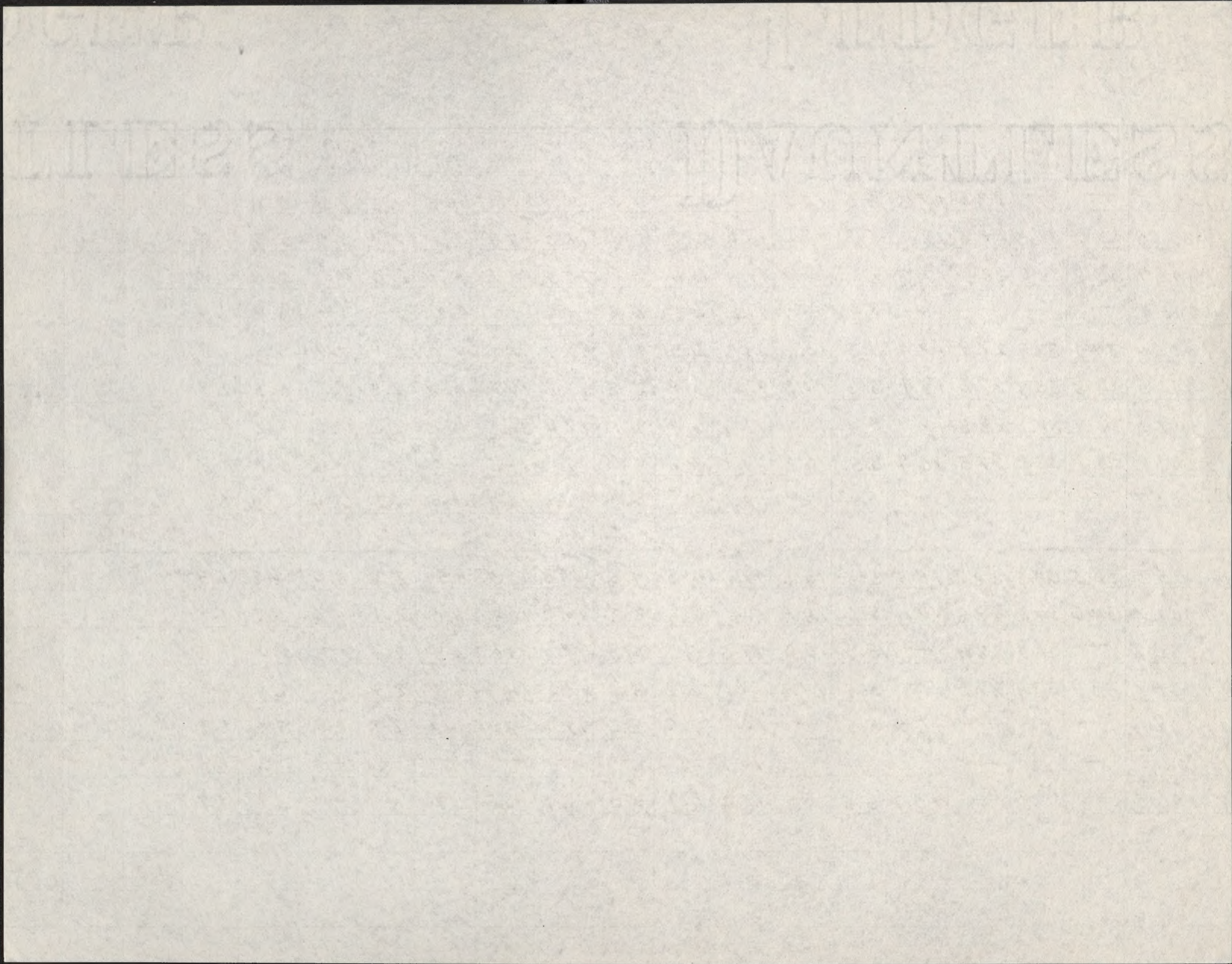
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Neohydromys*Light colored phase 3 and 4*

W.B.R.

Catalogue No.	Total length	Condylar length	Basilar length	Zygomatic breadth	Temporal constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width, outside molars	Molar row length	Molar row breadth			
110070	—	—	28.5	17.3	5.5	15.1	—	—	9.3	—	15.5	4.4	2.2	7.8	5.1	1.8			
110050	35.0	34.5	28.4 28.4	18.4	5.8	15.5	11.5	6.7	9.0	18.0	14.9	4.1	2.4	8.0	5.3	1.8			
110067	35.2	34.5	28.4	17.6	5.6	15.3	11.4	6.4	8.9	18.3	15.1	4.4	2.3	7.8	5.1	1.8			
110054	—	—	—	—	5.4	—	11.2	6.4	8.8	—	—	4.0	—	—	5.4	1.9			
110056	34.1	33.9	27.9	17.4	5.3	15.2	11.3	6.5	8.8	17.6	14.7	4.0	2.1	7.7	5.3	1.9			
110055	34.3	33.8	27.5	18.1	5.6	14.8	11.7	6.1	8.8	17.6	14.7	4.2	2.2	7.7	5.3	1.9			
110074	34.5	34.1	28.3	17.7	5.4	15.1	11.6	6.4	9.1	17.6	14.8	4.1	2.3	7.5	5.2	1.8			
110052	33.7	33.2	27.5	16.9	5.5	14.8	11.1	6.2	8.6	17.1	14.5	4.0	—	7.6	5.1	1.8			
110057	—	—	—	—	5.6	—	10.7	5.7	8.0	16.4	13.7	3.8	2.2	7.4	5.2	1.8			
110053	35.3	34.8	28.7	18.4	5.8	15.5	11.4	6.3	9.3	18.3	15.3	4.5	2.3	8.0	5.2	1.9			
110049	34.6	34.3	28.2	17.1	5.6	14.9	11.4	6.4	8.8	17.8	14.9	4.0	2.1	7.8	5.3	1.8			
110058	—	33.9	28.4	—	5.3	15.0	11.6	6.1	8.8	17.5	15.0	3.8	2.4	—	5.0	1.8			
110059	33.8	33.4	27.5	—	5.4	14.8	11.1	6.2	8.6	17.5	14.8	4.2	2.4	—	5.3	1.9			
110064	—	—	—	16.5	5.5	—	10.2	6.0	8.2	17.0	14.0	4.3	2.3	7.5	5.4	1.9			
110065	—	—	—	—	—	—	10.7	—	—	—	—	—	—	—	5.3	1.9			
110063	—	—	—	15.7	5.5	—	10.0	5.9	8.0	16.1	13.6	3.9	—	—	5.1	1.7			



Neohydromys

Light color phase ♂ and ♀

W.B.R.

Catalog No.	Original No.	Collector	Locality Netherlands New Guinea	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
110070	4834	Archbold + Richardson	Lake Habbema	3225 Aug 27, 1938	♂ ^{a.}	345	184	37	10	161
110050	4682	"	"	" 12, "	♂ ^{a.}	341	187	39	9	154
110067	4813	"	"	" 24, "	♂ ^{a.}	340	187	37	9	153
110054	4721	"	"	" 18, "	♂ ^{a.}	328	173	37	8	155
110056	4723	"	"	" 18, "	♂ ^{a.}	327	174	36	9	153
110055	4722	"	"	" 18, "	♂ ^{a.}	317	170	36	9	147
110074	4847	"	"	" 29, "	♂ ^{a.}	312	160	35	9	152
110052	4702	"	"	" 14, "	♂ ^{s.a.}	305	161	37	9	144
110057	4724	"	"	" 18, "	♂ ^{s.a.}	285	146	34	8	139
110053	4713	"	"	" 14, "	♀ ^{a.}	350	190	38	9	160
110049	4592	"	"	" 5, "	♀ ^{a.}	337	184	36	9	153
110058	4725	"	"	" 18, "	♀ ^{a.}	316	164	35	8	152
110059	4726	"	"	" 18, "	♀ ^{a.}	308	169	35	8	139
110064	4786	"	"	" 22, "	♀ ^{s.a.}	295	161	35	8	134
110065	4787	"	"	" 23, "	♀ ^{s.a.}	277	146	34	8	132
110063	4766	"	"	" 21, "	♀ ^{s.a.}	273	143	33	8	130

W. J. AND T. B. B. C.

1885

Pseudohydromys

W.D.R.

Catalog No.	Original No.	Collector	Locality <i>Netherlands New Guinea</i>	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body
150487	5113	Archbold - Richardson	9km NE Lake Habbema	2800m Oct. 12, 1938	a. ♂	257	135	30	17	
150503	5130	"	"	" 13, "	a. ♂	252	134	29	18	
150511	5144	"	"	" 15, "	a. ♂	248	131	30	17	
150512	5143	"	"	" 15, "	a. ♂	261	135	31	17	
150521	5152	"	"	" 16, "	a. ♂	256	132	30	17	
150524	5162	"	"	" 17 "	a. ♂	240	123	29	16	
150534	5176	"	"	" 18 "	a. ♂	250	130	31	17	
150536	5178	"	"	" 18 "	a. ♂	249	130	30	18	
150533	5175	"	"	" 18 "	a. ♂	246	127	30	17	
150538	5182	"	"	" 19 "	a. ♂	250	131	30	18	
150542	5188	"	"	" 20 "	a. ♂	245	122	29	17	
150544	5191	"	"	" 21 "	a. ♂	249	139	30	17	
150560	5209	"	"	" 22 "	a. ♂	250	128	30	18	
150563	5215	"	"	" 23 "	a. ♂	250	128	30	18	
150566	5221	"	"	" 24 "	a. ♂	245	124	31	16	
150578	5241	"	"	" 26 "	a. ♂	237	120	28	15	
150579	5242	"	"	" 26 "	a. ♂	242	124	30	18	
150577	5240	"	"	2700 " 26 "	a. ♂	250	129	30	17	
150601	5284	"	"	2800 " 30 "	a. ♂	242	120	30	16	
150602	5287	"	"	2700 " 30 "	a. ♂	240	118	29	16	
150603		"	"	" 30 "	a. ♂	240	129	27	15	

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♂ and ♀

W. B. R.

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CONVULSA

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GIGERL CONVULSA

OUTLEND

FRED CHEN

ALFRED

Pseudohydromys

♂ and ♀

W.D.R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
			Netherlands New Guinea							
110326	5034	Archibald Richardson	7km NE Wilhelmina top 3560	Sept. 19, 1938	♂	196	91	19	10	105
110344	4857	"	" 3600	" 8, "	♂	205	90	21	11	115
110366	4880	"	" 3560	" 11, "	♂	194	87	21	10	107
150772	4635	"	Lake Habbema 3225	Aug. 8, "	♂	191	90	20	8	101
152099	7677	"	4km SW Bernhard Camp, Idenburg R. 850	Mar. 16, 1939	♂	172	92	20	8	80
110391	4908	"	7km NE Wilhelmina top 3560	Sept. 14, 1938	♀	197	95	21	9	102

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CAMBRIDGE
1882

Pseudohydromys

W.B.P.

Catalogue No.	Total length	Condylar length	Basilar length	Zygomatic breadth	Temporal constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width, outside molars	Molar row length	Molar row breadth			
150487	32.6	31.6	25.5	15.1	5.8	12.8	12.5	6.1	7.6	17.0	13.2	4.7	2.4	6.7	4.5	1.7			
150503	31.6	30.3	24.3	15.0	6.0	—	12.0	—	7.3	16.2	12.5	4.6	2.4	6.9	4.6	1.7			
150511	32.5	31.3	—	15.1	5.9	12.8	12.7	—	7.7	16.9	13.0	4.8	2.3	6.9	4.8	1.8			
150512	32.5	31.0	25.1	15.1	5.8	—	12.3	5.9	7.8	16.5	13.0	4.9	2.3	6.7	4.7	1.8			
150521	—	—	—	14.8	5.8	—	12.4	6.1	7.9	16.5	12.8	4.7	2.4	6.7	4.6	1.7			
150524	31.3	30.2	24.4	15.0	5.9	12.2	12.0	5.6	7.4	16.2	12.6	4.8	2.4	6.8	4.7	1.7			
150534	32.2	31.0	—	—	5.6	—	12.5	6.1	7.7	16.5	12.5	4.8	2.5	7.1	4.7	1.7			
150536	31.8	30.5	24.5	14.5	5.8	12.6	11.7	6.0	7.8	16.3	12.8	4.7	2.5	6.8	4.5	1.7			
150533	32.0	30.7	24.9	—	6.0	12.9	12.5	6.2	7.9	16.7	12.8	5.0	2.5	7.1	4.6	1.7			
150538	32.0	30.3	25.0	15.1	5.9	—	12.5	—	7.8	16.5	13.0	5.0	2.4	6.6	4.6	1.7			
150542	31.3	29.8	—	14.8	5.8	—	12.0	—	7.4	16.0	12.4	4.7	2.4	6.8	4.7	1.8			
150544	—	—	—	14.7	5.7	12.4	12.5	6.1	7.7	16.8	13.5	5.1	2.4	7.0	4.7	1.7			
150560	—	—	—	—	—	—	12.3	6.0	7.9	16.8	13.2	5.0	2.5	6.8	4.6	1.7			
150563	—	—	—	—	5.9	—	12.0	—	7.9	16.7	13.1	4.9	2.3	6.7	4.4	1.7			
150566	32.4	31.2	25.3	—	5.9	13.0	12.1	—	7.9	16.7	12.9	4.9	2.4	6.8	4.6	1.7			
150578	31.6	30.2	24.5	—	5.9	—	11.9	5.9	7.6	16.2	12.9	4.6	2.4	6.6	4.7	1.7			
150579	Missing																		
150577	32.0	31.6	25.0	15.2	6.0	13.0	12.5	6.3	7.7	16.5	13.0	4.8	2.5	7.0	4.8	1.8			
150601	—	—	—	—	5.9	—	12.5	—	7.9	16.9	13.2	5.1	2.5	6.6	4.7	1.8			
150602	31.8	30.5	24.8	14.5	5.9	12.6	12.5	—	7.6	16.5	12.7	5.0	—	6.8	4.7	1.7			
150603	32.0	31.0	25.0	—	5.7	12.4	12.6	6.0	7.8	16.7	13.0	4.8	—	6.8	4.7	1.8			

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Pseudohydromys

W B R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body
			Netherlands New Guinea							
150610	5303	Archbold + Richardson	9 km NE Lake Habbema 2700m	Oct. 31, 1938	♂ ^a	247	130	30	16	
150612	5309	"	"	Nov. 1 "	♂ ^a	246	124	30	16	
150613	5310	"	2800	" 1 "	♂ ^a	247	127	29	18	
150620	5326	"	2700	" 2 "	♂ ^a	244	129	30	18	
150647	5355	"	"	" 4 "	♂ ^a	246	128	30	16	
150486	5112	"	2800	Oct. 12, 1938	♂ ^{s.a.}	245	124	30	17	
150532	5174	"	"	Oct. 18, "	♂ ^{s.a.}	245	125	29	17	

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Pseudohydromys

W.B.R.

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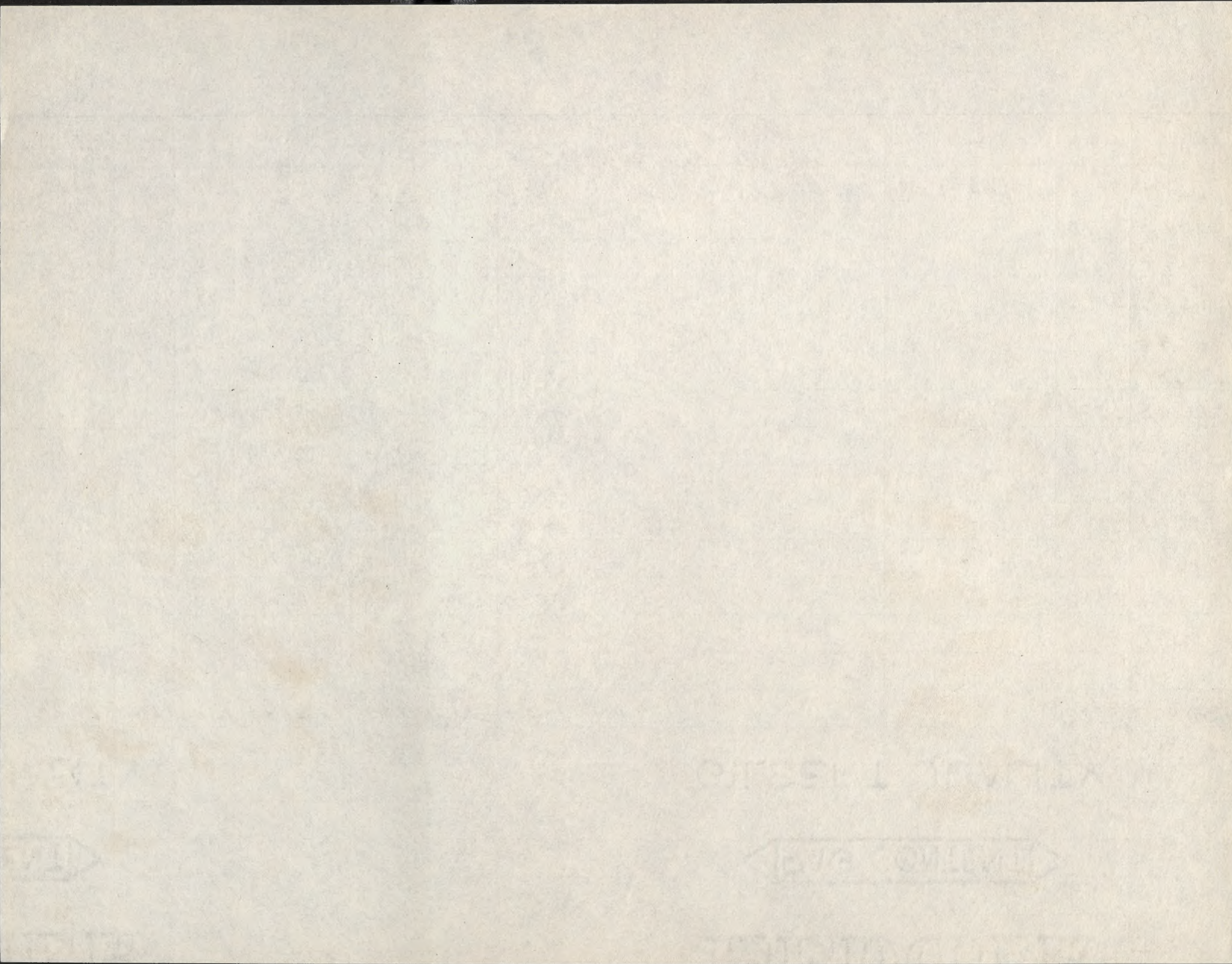
ORIGINAL

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Pseudohydromys

W.B.R.

Catalog No.	Original No.	Collector	Locality Netherlands New Guinea	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body
150504	5131	Archbold-Richardson	9 km. NE Lake Habbema 2800m.	Oct. 13, 1938	a. ♀	253	133	30	18	
150516	5145	"	"	" 15, "	a. ♀	254	134	30	18	
150522	5153	"	"	" 16, "	a. ♀	250	129	30	17	
150545	5192	"	"	" 21, "	a. ♀	255	134	29	17	
150546	5193	"	"	" 21, "	a. ♀	247	134	30	17	
150581	5244	"	" 2700	" 26, "	a. ♀	246	130	28	16	
150598	5276	"	" 2800	" 29, "	a. ♀	242	124	29	16	
150608	5300	"	"	" 31, "	a. ♀	239	125	30	15	
150611	5304	"	" 2700	Oct. 31, "	a. ♀	256	136	29	16	
150641	5349	"	" 2800	Nov. 3, "	a. ♀	251	132	30	16	
150642	5350	"	" 2700	" 3, "	a. ♀	236	122	28	16	
150644	5352	"	" 2800	" 4, "	a. ♀	249	126	28	17	
150651	5359	"	"	" 5, "	a. ♀	246	125	28	15	
150567	5222	"	" 2800	Oct. 24, 1938	s.a. ♀	225	115	29	18	
150580	5243	"	" 2700	" 26, "	s.a. ♀	230	120	29	17	



Pseudohydromys

WBR.

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171122

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Pseudohydromys

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ITALIA



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W.B.R.

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INVALENT 1872

Pseudohydromys

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COAST

CHERRY COAST

WIND

WIND

CHERRY

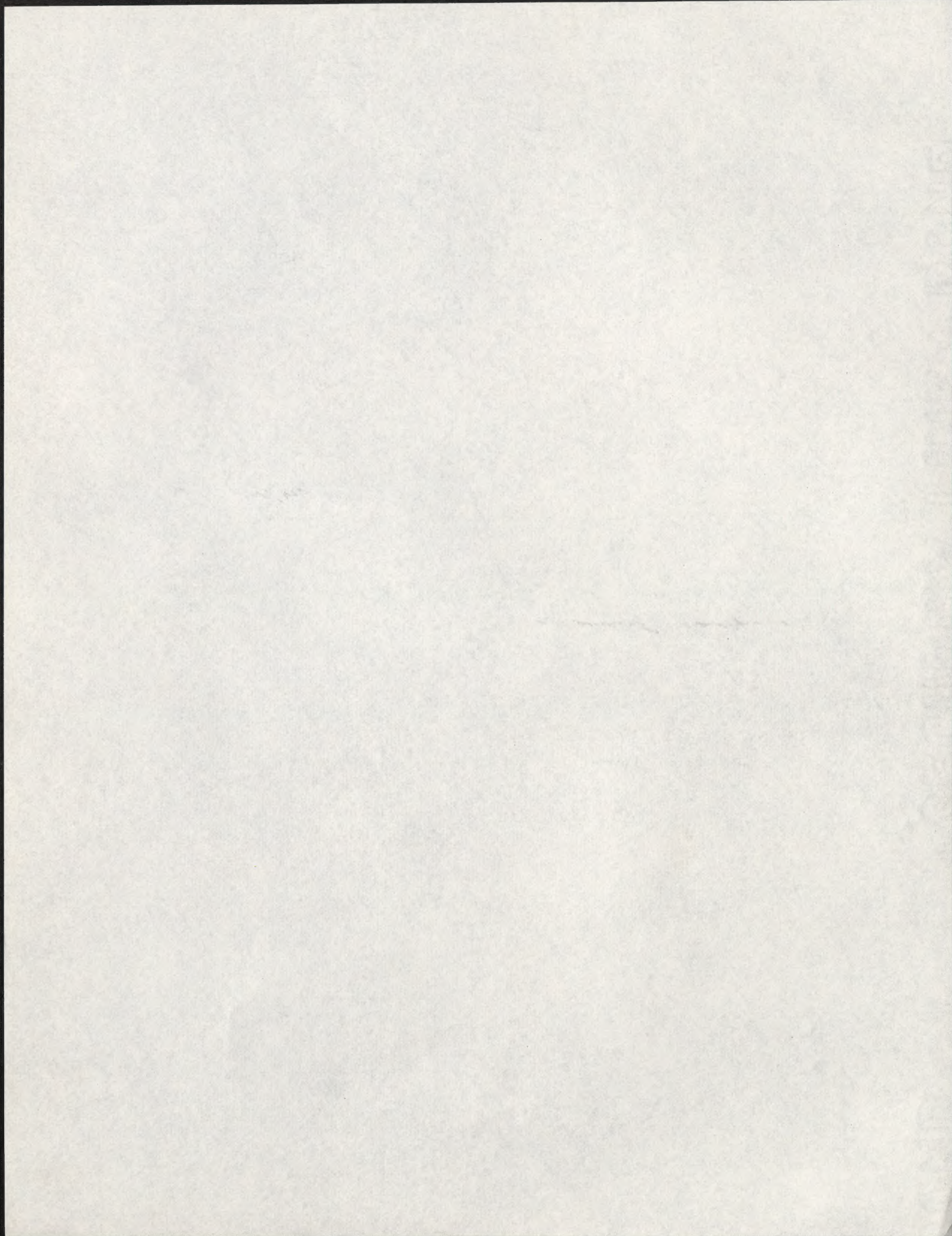
CHERRY

CHERRY

CHERRY

Hydromys chrysogaster esox
Hydromys esox Thomas Thomas

A single specimen taken from the Astralabe Range
(loc. cit.) conforms closely to Thomas' original description
and to Rumrider's account of the redoximation.
On this basis and because of the proximity of
the Astralabe to Port Moresby, the type locality,
this specimen is considered as ~~typical~~ ^{typified}. Unfortunately
~~however~~ the animal is not a full adult as shown
by the ~~leaf of wax on the shell and the~~ unfused pre spheroid suturae. It has,
however, worn scales, distended scrotum and adult
pelage which indicates it is near adult.

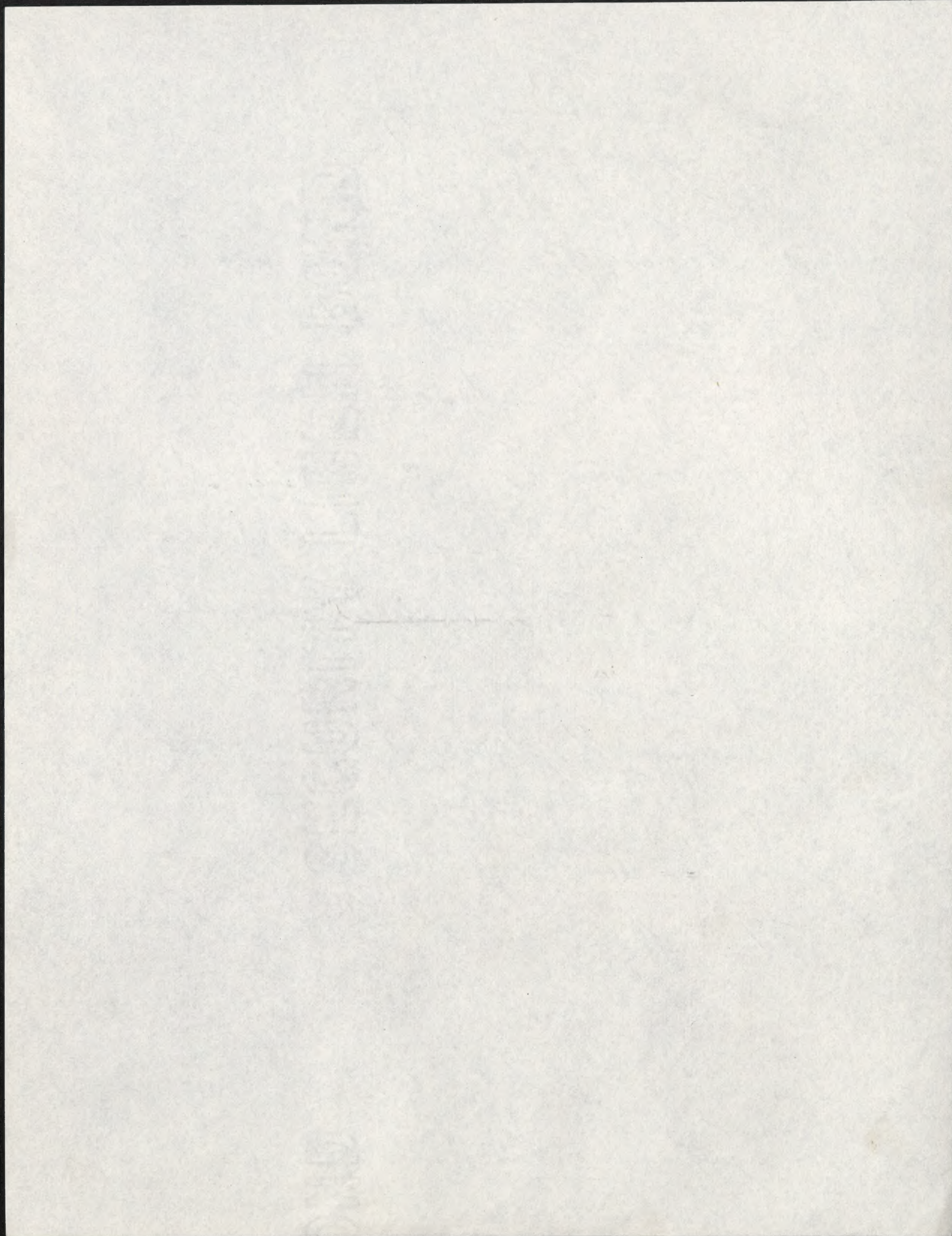


Hydromys chrysogaster illuteus

Hydromys esox illuteus Thomas

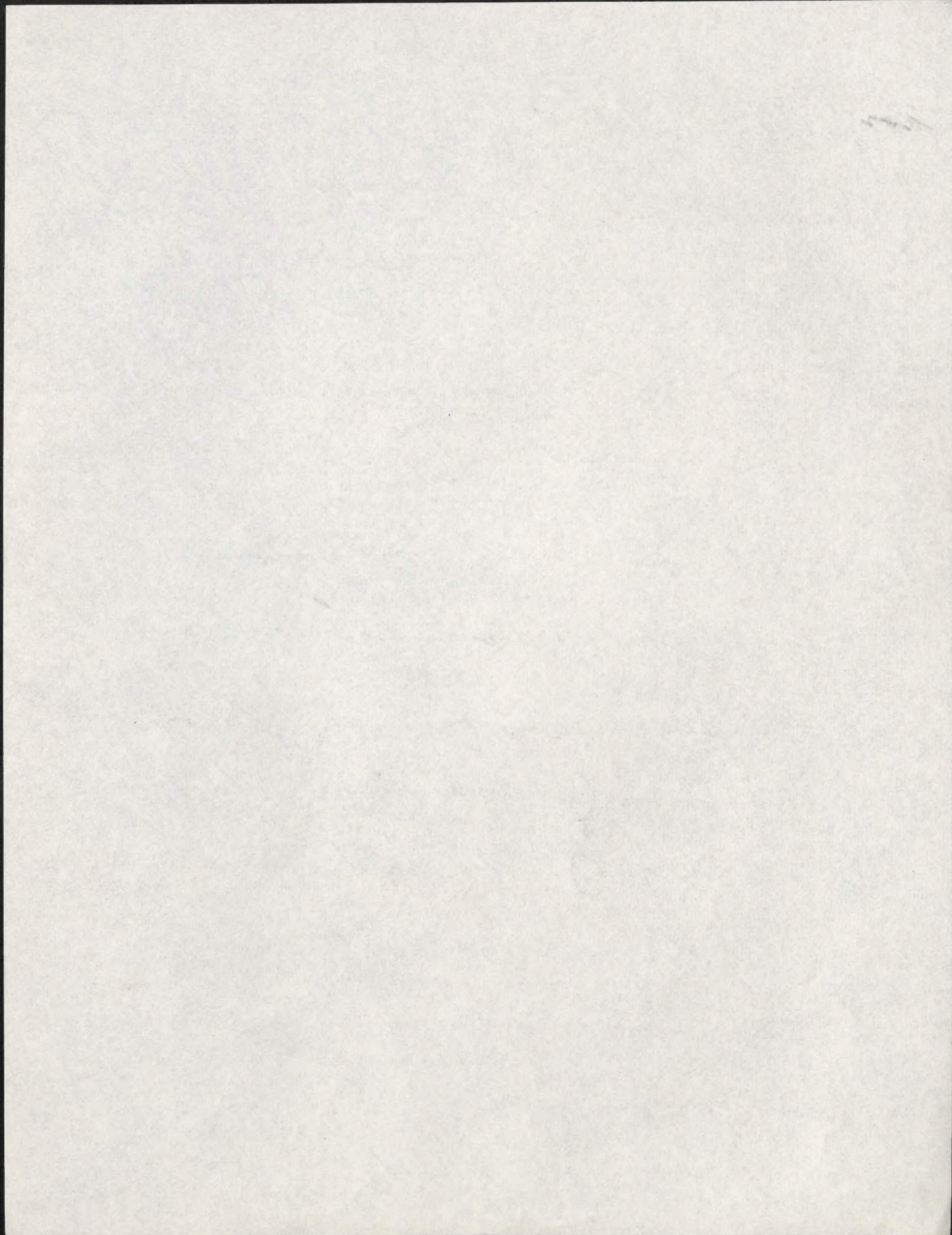
A series of 7 individuals ~~was~~ taken from Bernhard Camp and the vicinity compare closely to Thomas' description of illuteus^(loc. cit.). This camp is situated some 40 miles S E of Prauven-bivak in the same river system with ^a similar elevations, terrain, and vegetation. On the basis of the description and the proximity of localities these specimens are here considered ~~as~~ ^{virtually} ~~typical~~ ^{typical}.

This form was considered by Romer (loc. cit.) as a synonym of esox principally on the assumption that the color variation of the specimen from Prauven-bivak



was within what he considered the range of individual variation. Although examining both types he had no series with more than three individuals from any single locality, which is hardly sufficient to make an accurate analysis of individual variation.

In the ^{series} ~~series~~ ~~specimens~~ from Burnford Camp (similarly in other series from the Fly River) I find that there is little individual variation when specimens in adult pelage and of similar sex are compared. On the basis of this constancy in



topotypical material it is apparent
that Thomas name of illutus
should be revived to apply
to the Idunby race of Hydromys.

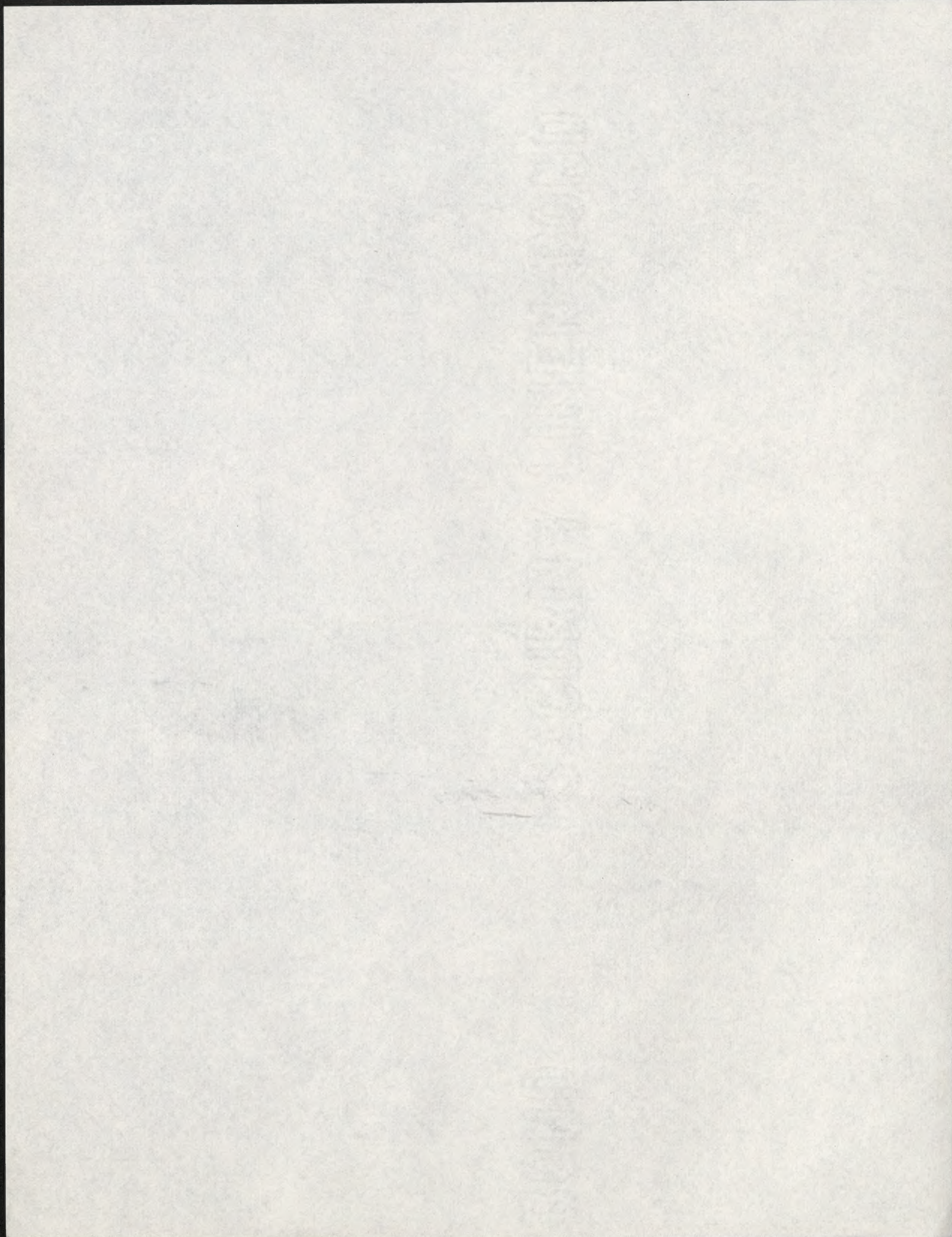
Jentink (1911: p 169-176) who from
his series of 7 individuals from
Round [=Vicinity of] Bivak Island states

"We see _____ Terominalis."

This

variation ~~was observed~~ ~~in color~~ ~~is~~ ~~perhaps~~ ^{may also be} due
to inexactness of quoted label location.

This later situation sometimes arises
when specimens are purchased from
natives who have obtained their catches
in different regions. The skull



measurements, ^{however,} ~~actually~~ show very slight variation if #419 is considered a sub adult. The variation in the external measurements is rather larger than one would expect from the skull measurements but if we consider that probably these specimens were prepared and labeled by "montres" (native collectors) the variation is perhaps understandable.

~~Insert sentence~~ This form ^{allusion has been} ~~is~~ compared to that of 1902 by Thomas (1922: Nova Guinea Vol. 13, p. 731)

In addition several other differences are listed ~~as follows~~

1. The cinnamon buff patch in front of the shoulder is lacking

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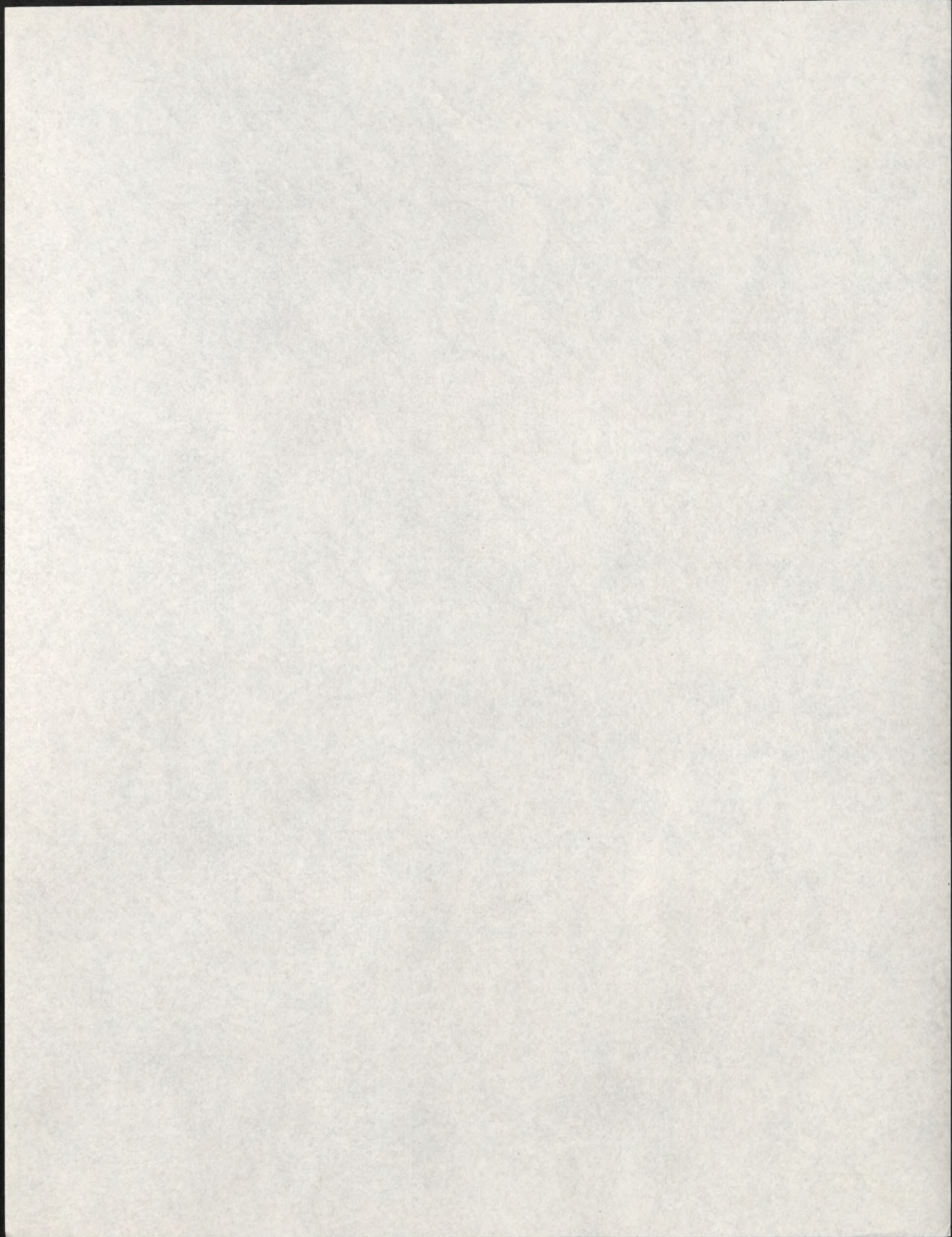
ASTOR LENOX TILDEN FOUNDATION

2. Dorsal-lateral half of head brown, lacking the distinct dorsal stripes extending from the 4th finger posteriorly.

3. Muzzle dark with little or no white below *pinarium*.

4. No distinct line where white of cheeks and dark ~~top~~ of head join.

Material —

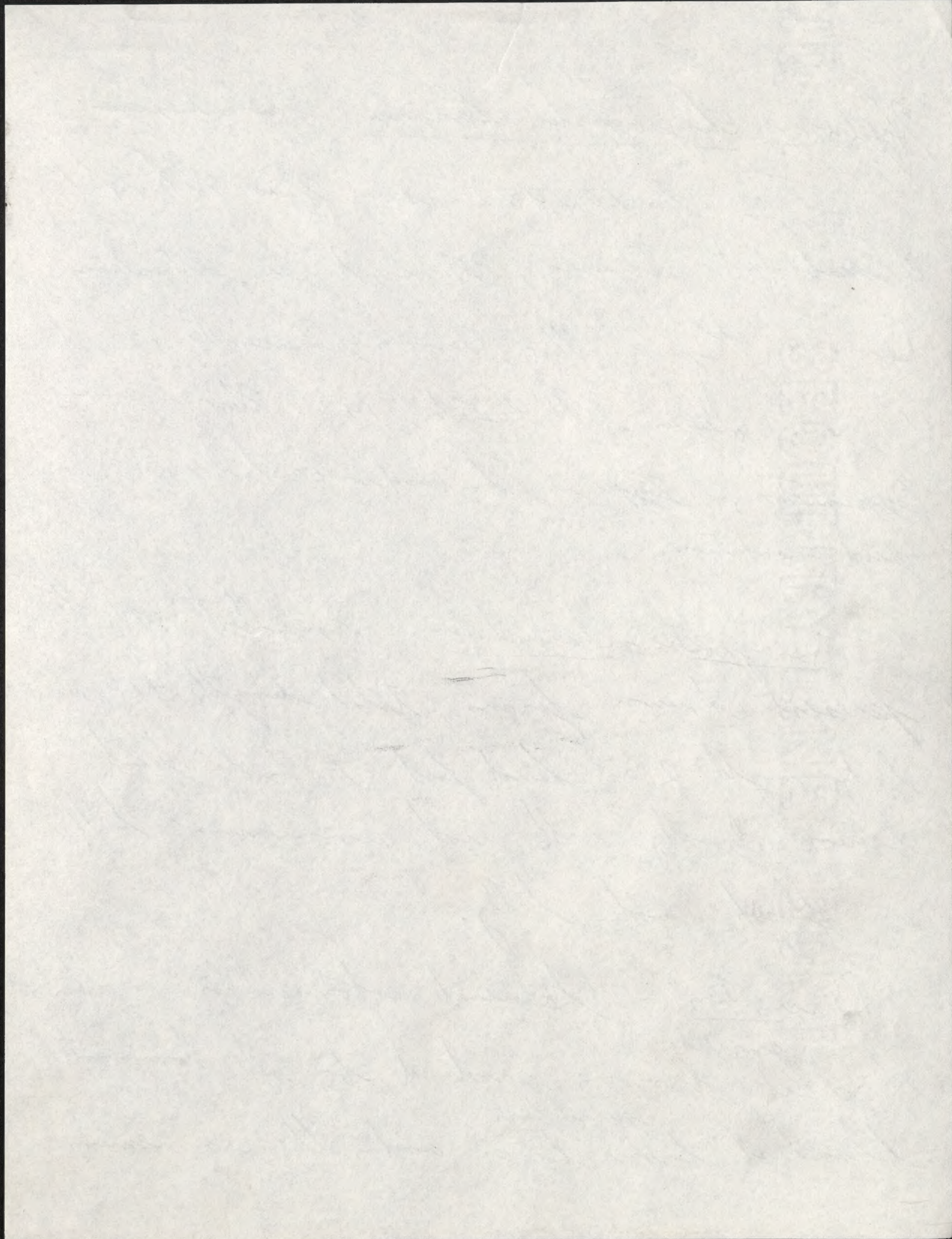


Hydromys chrysogaster tarara *new sub-species*

Type - No 105782 Amer. Mus. Nat. Hist.;
♂ ~~subadult~~; Tarara, Wasi Kussi, Western
Division, Papua, New Guinea; December 12,
1936; collector G.H.H. Tate, 1936 New Guinea
Expedition; Type is skin ~~and~~ with skull in
good condition.

Diagnostic characters - Smallest of the
present known forms, total length 415,
body length 210, hind foot 47. Color dark
brown dorsally with rich cinnamon buff
on flanks and belly. Skull small.

Description - General color above is that
of dark ^{grizzled} brown produced by the dominant
blackish brown ^{guard hairs} tips and the cinnamon



buff sub terminal bands; darkest
 on head from the rostrum to nape
 of neck, shoulder ~~slightly~~ lighter, darkening
 gradually toward rump; sides lighter
 due to increasing width of ^{the} cinnamon
 buff guard hair band; dorsally the
 light ^{gull} gray underfur is almost
 obscured by the cinnamon buff tipped
 guard hair; tail blackish brown
 with white tips of 55 mm; hind
 feet sparsely covered with short fusces
 hair, lighter laterally; front feet fusces
 black with thin light colored lateral
 stripe running to 5th finger; ear
 dark, sparsely clothed with hair; ~~is~~

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front of shoulders a cinnamon buff patch. Skull ^{small}; rostrum short, tapering; braincase inflated; ~~zygomatic breadth short~~ diastema short; ~~snout~~ ^{snout} ~~normal~~ ^{normal} of the genus but much reduced in size. (see measurement) incisive foramina and interorbital constriction normal.

Measurements of type —

Comparisons — Compared with esox

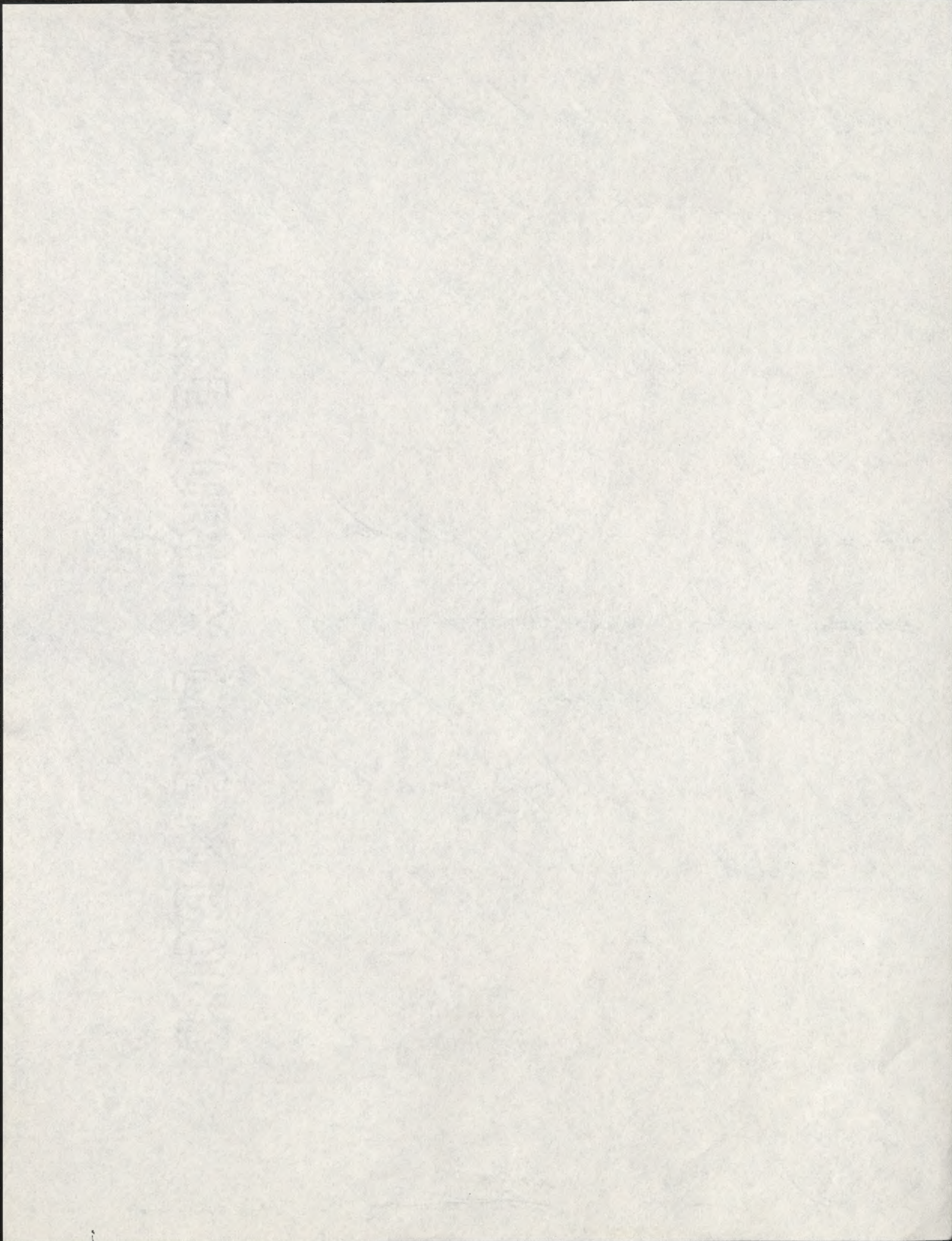
and illutus in size small. Skull small with short tapering rostrum; zygomatic breadth narrow; temporal constriction proportionally broader; brain case smaller. In color dorsally tinged with cinnamon buff; flanks, belly and cheeks with the cinnamon buff ~~color~~ more intensified; front feet

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with broad dark dorsal stripes.

From papuana, tarara differs in smaller size with shortened body, tail, and foot length. Skull in all respects is much smaller. Color dorsally similar; ~~flanks~~ and belly ~~strong~~ richer cinnamon buff; hind feet fuscous brown; front feet with broad dorsal stripes rather than the thin well defined narrow stripes extending to the 4th and 5th digits.

Compared with description of moae (Banks Islands) size is smaller, Skull much smaller; ^{incisive} ~~palatal~~ foramina



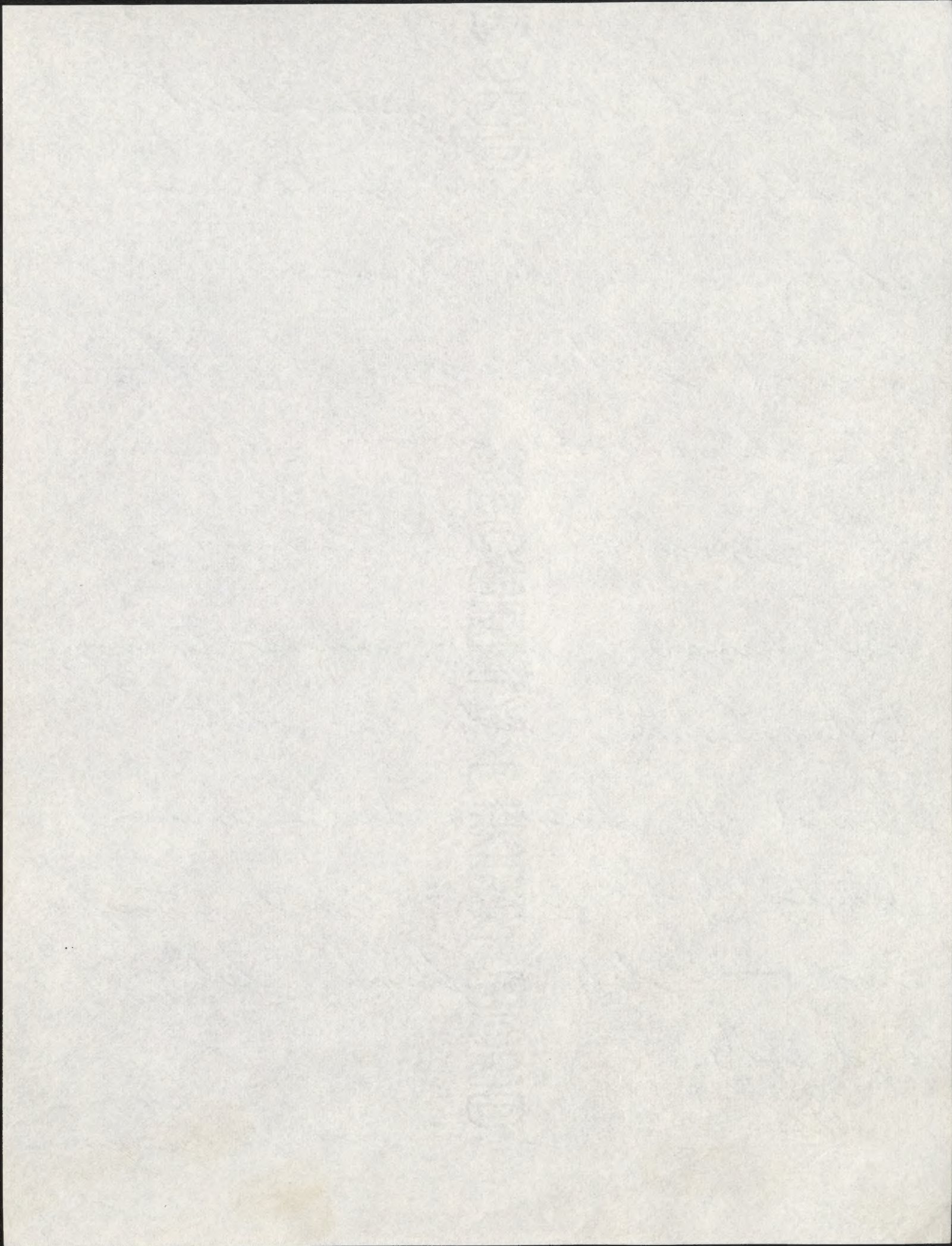
longer and broader; interorbital
constriction narrower; molar row
shorter. Color dorsally darker.

Compare with description of nautilus
(Am Islands) and buccarii (Kei Islands).
size smaller; shorter hind foot.

Skull small; rostrum narrow tapering;
diastema shorter; molar row shorter.

General color dorsally a darker brown,
particularly in buccarii; more intensified
cinnamomeous buff on flanks, cheeks,
and belly.

Remarks — There are 10 specimens



from the middle Fly River region
which are very similar to toros.

The individual from Gaima is a
juvenile so nothing can be said
of its affinities. The ^{other} 3 specimens

from Start Island and the 6
from Lake Davumbu differ from

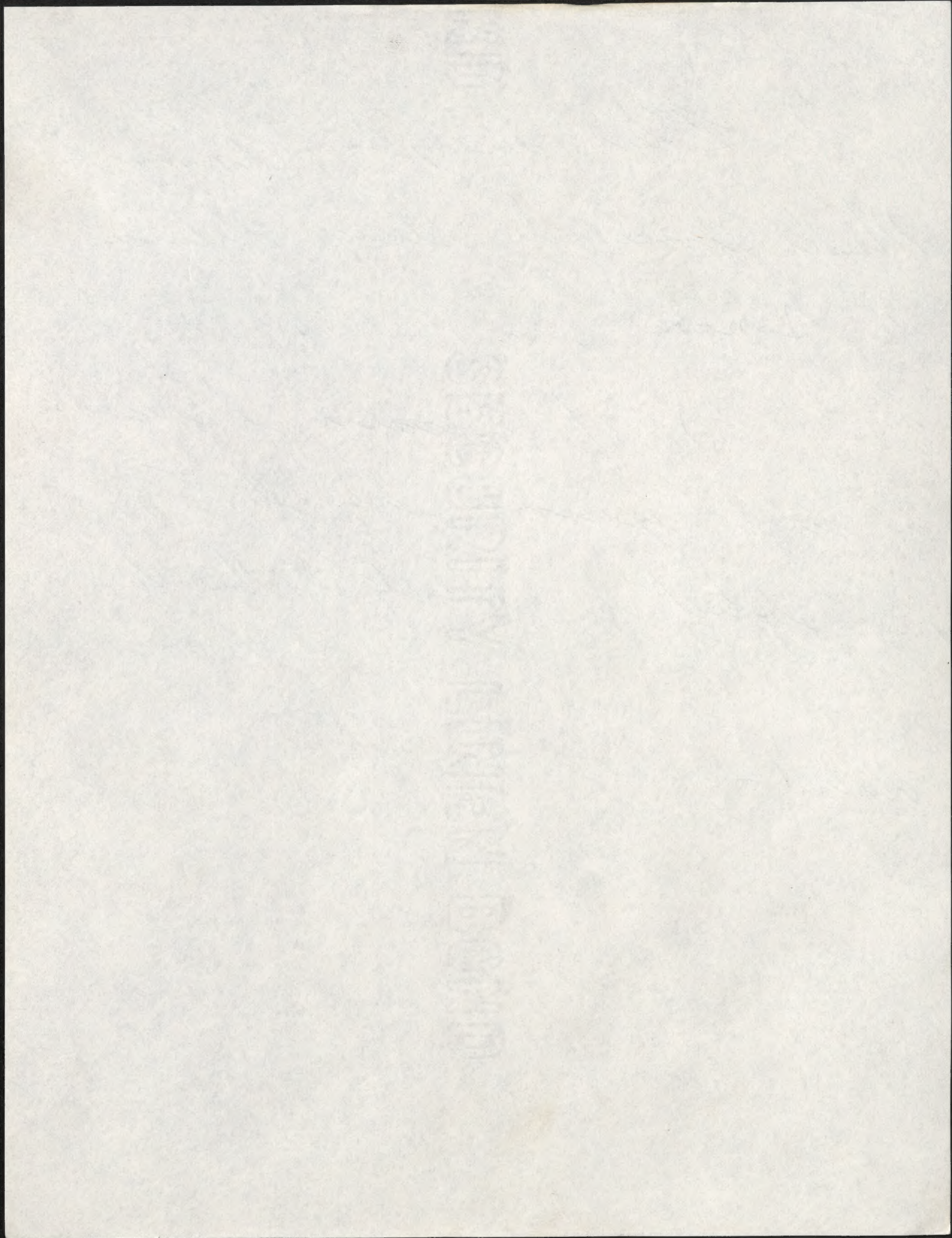
the type in being somewhat larger
in external and skull measurements,
and with slightly less cinnamon

buff color on flanks and belly,
in these respects approaching the
upper Fly River form.

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In Peters description (Annali del
 Museo Civico di Storia Natural
 di Genova Series 1 vol 14 1880-81
 p 705-4) of beccarii he records
 a single specimen from the Fly
 River which is probably of this form.

Material -

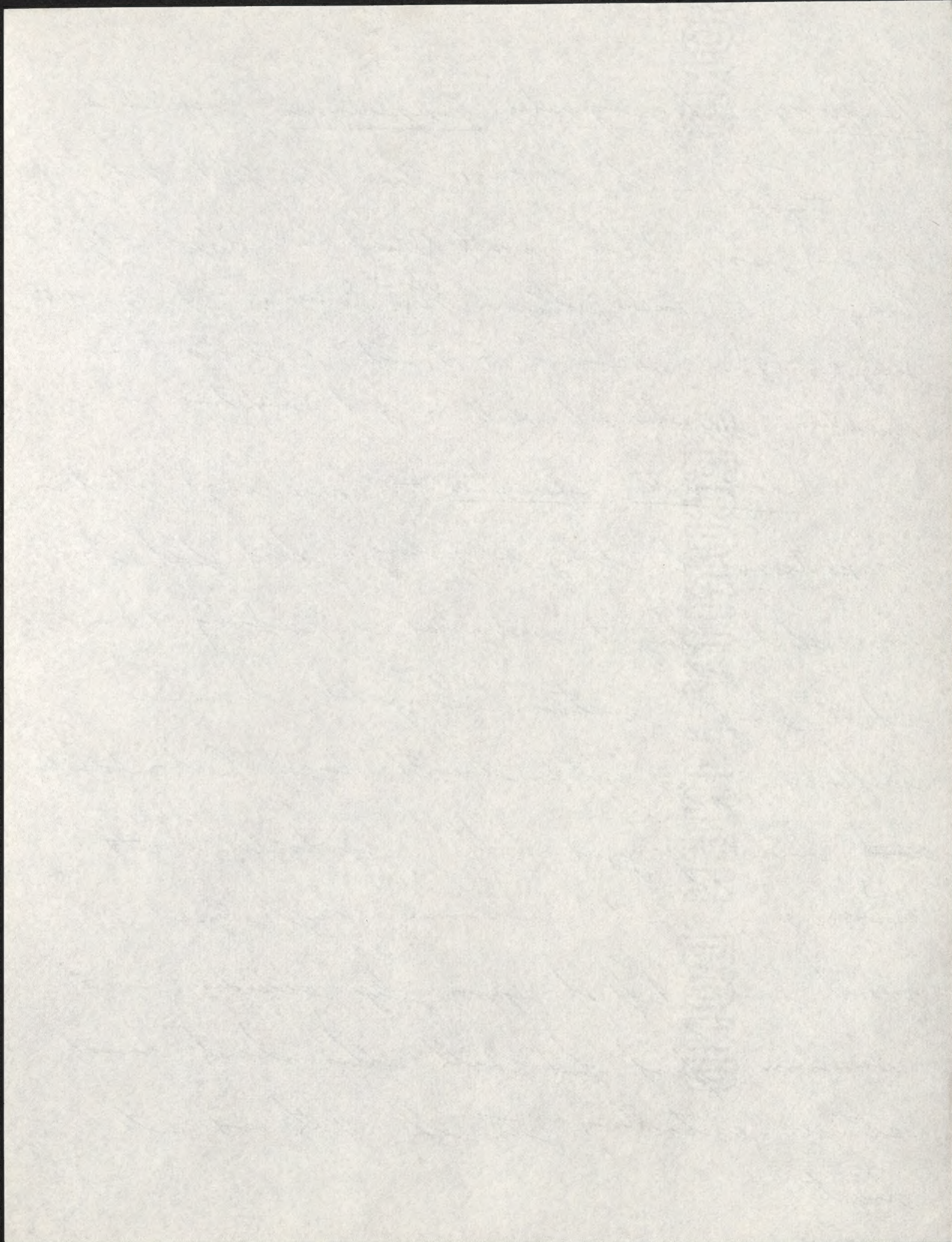


Hydromys chrysogaster papuana new sub. sp.

Type - No. 105201 Amer. Mus. Nat. Hist.;

♂ adult; 1 mi. below mouth Black River, Upper Fly River, Western Division, Papua, New Guinea; alt 1000 meters; July 25, 1936. collector G. H. H. Tate, 1936 New Guinea Expedition; type skin and skull in good condition.

Diagnostic characters - Large size; tail in proportion to body very long; hind foot long; ear short; longest vibrissae exceeding 90 mm. Skull large; rostrum elongated; brain case inflated; zygomatic breadth large. Color dorsally ~~dark~~ brown grizzled buff; ventrally ~~light~~ ^{pale} ~~gray~~ with cinnamon buff tized guard hairs; buff of upper lip extending up to vivarium; front feet with thin dark dorsal stripes extending to the 4th and 5th digits.



Description - Size large with proportionately long tail; front and hind feet large; ears short; vibrissae long. Color dorsally is a grizzled brown formed by the fuscous black tipped guard hairs and the cinnamon buff sub-terminal bands, slightly lighter over shoulders than on rump and head; laterally lighter in color shading to a light gull gray belly with cinnamon buff guard hair; hind feet clothed with short white hair except for brown colored first digit; front feet light cinnamon buff with thin dorsal stripes running to the 4th and 5th toes; ear short haired fuscous black; tail blackish brown, terminal 180 mm white, patch

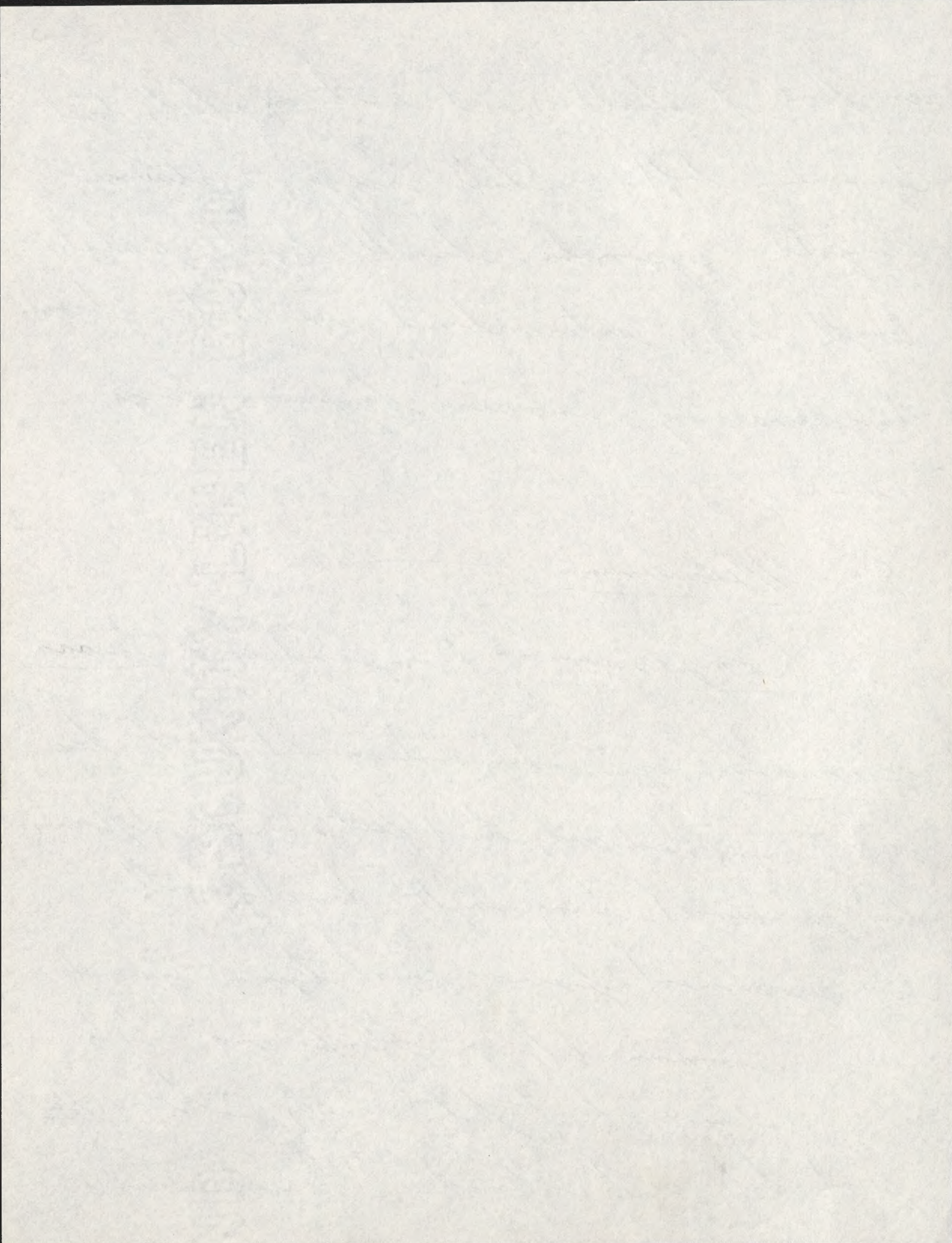
Q

in front of shoulders and another on cheeks light
 cinnamon buff. Skull large; rostrum
 elongated; zygomatic breadth broad; palatal
 length long; inter orbital constriction broad;
 diastema long; incisive foramina large;
 nasals long.

Measurements —

Comparisons — Compared with tarana,

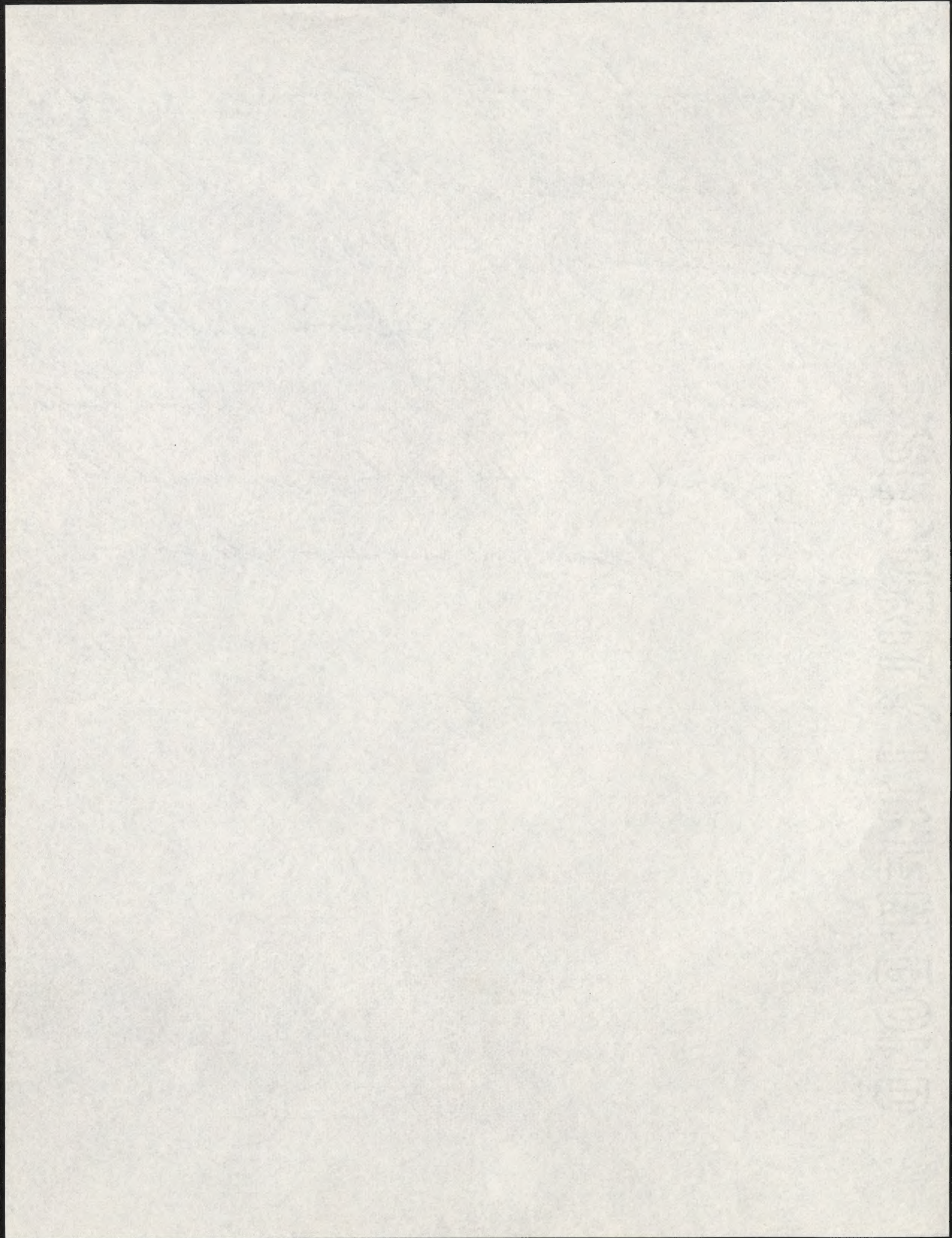
papua is readily distinguished by its larger
 size; longer tail and hind feet. Color differences
 less pronounced being lighter dorsally with
 less prominent fuscous black tipped guard
 hairs; cinnamon buff on flanks and belly
 less intense; hind feet nearly white; thin
 front feet with thin dark dorsal stripe.



4

Skull very much longer. From esox and illutus, papwana differs in having a ^{comparatively} ~~proportionally~~ longer tail; hind feet longer; Colo ~~richer cinnamon~~ buff dorsally and ventrally. Skull larger; rostrum longer; ~~width~~ zygomatic breadth greater; infraorbital constriction broader; incisive foramina larger.

Material - type.



1825-1875

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FEDERAL

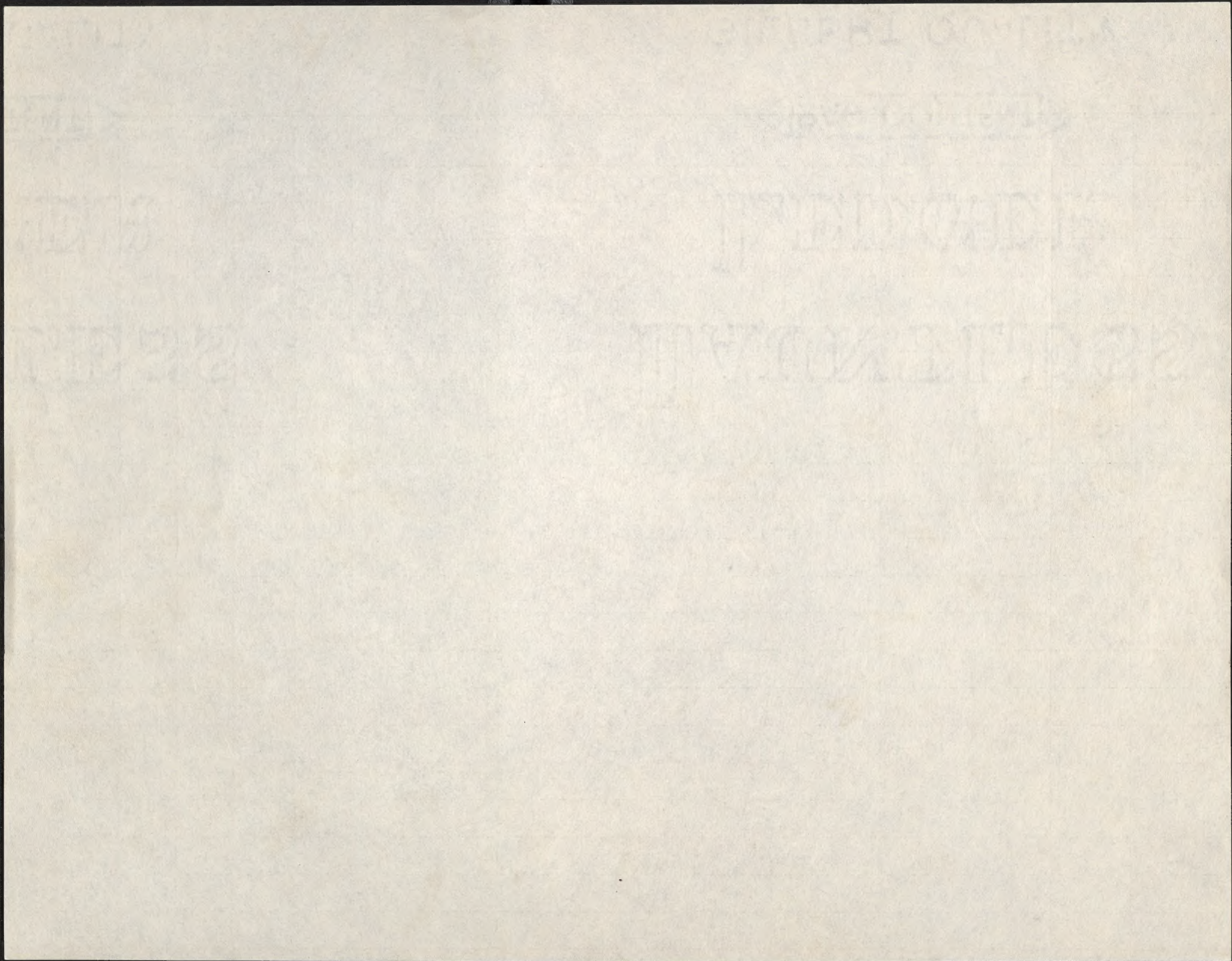
MANUAL FOR

Neohydromys
Mixed color phase ♀

Mixed color phase ♀

W.B.R.

[illegible]



Leptomys signatus

W.B.R.

[illegible]

1872

1872

1872

1872

Leptomys ernstmayri

W.B.R.

Catalog No.	Original No.	Collector	Locality Papua, Central Division	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
108449	3520	Archbold + Tate	Sogeri 450m	Feb. 5, 1937	♂	308	151	40	22	157
108452	3691	"	Kagi, Kokoda Rd. 1500m	Mar. 9, "	♂	267	143	35	19	124
108451	3690	"	" "	Mar. 8, "	♂	255	141	35	19	114
108450	3666	"	Sogeri, Astrolabe Range 410	Feb. 28, "	♀	315	125	40	21	190
108447	3581	"	Baruari rest house, Astrolabe Range 520	Feb. 13, "	♀	302	143	38	19	159
108448	3621	"	" " "	Feb. 19, "	♀	278	132	37	18	136
104199	1586	Archbold	Mafulu 125 ³	Nov. 7, 1933	♂	306	154	40	17.9	152
104200	1605	"	" "	Nov. 14, "	♂	305	160	40	23	145

SECRET OF STATE

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

Missing Skulls

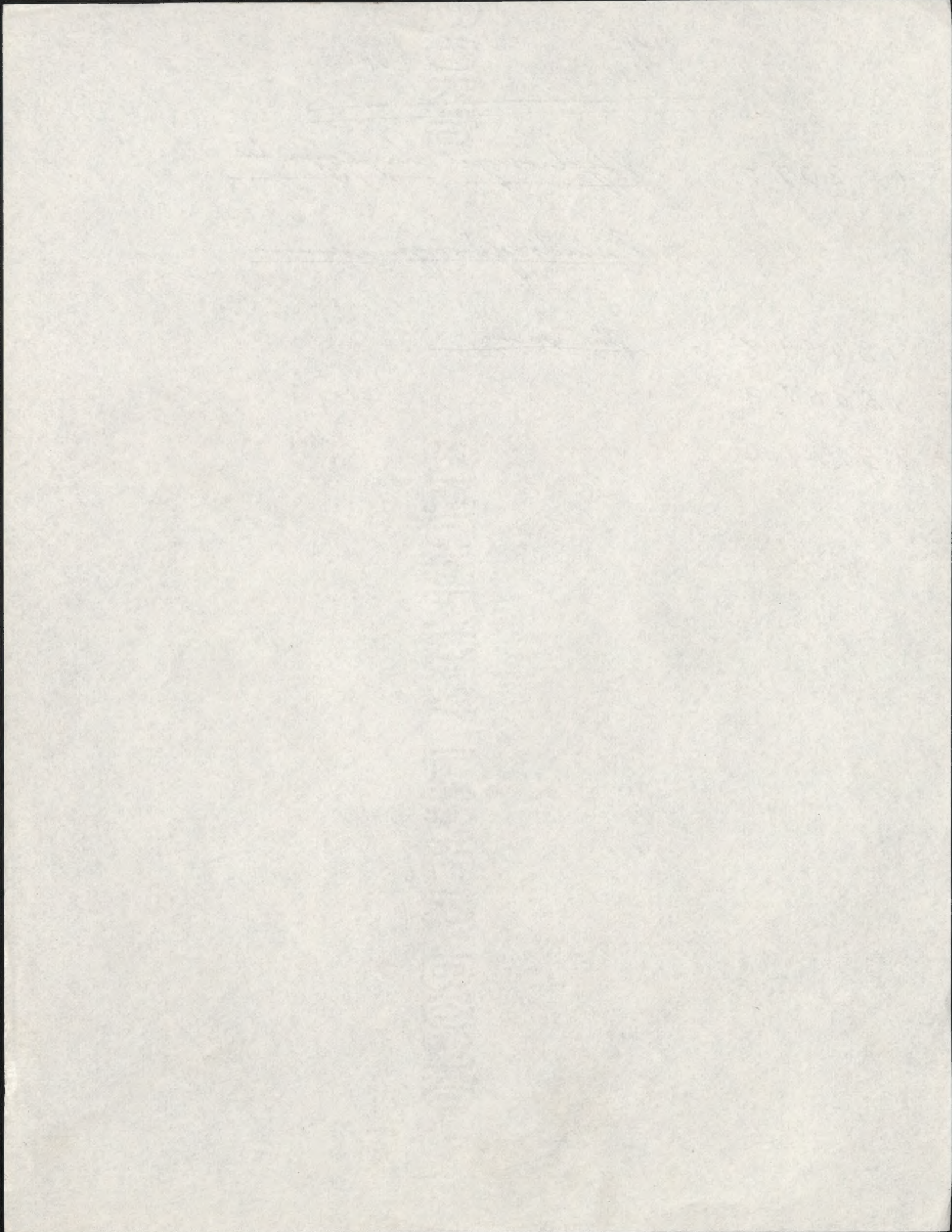
152077 - Hydromys hysogaster.

110326 - Pseudohydromys minimus.

150598 - the species.

150579 - "

152116 - "



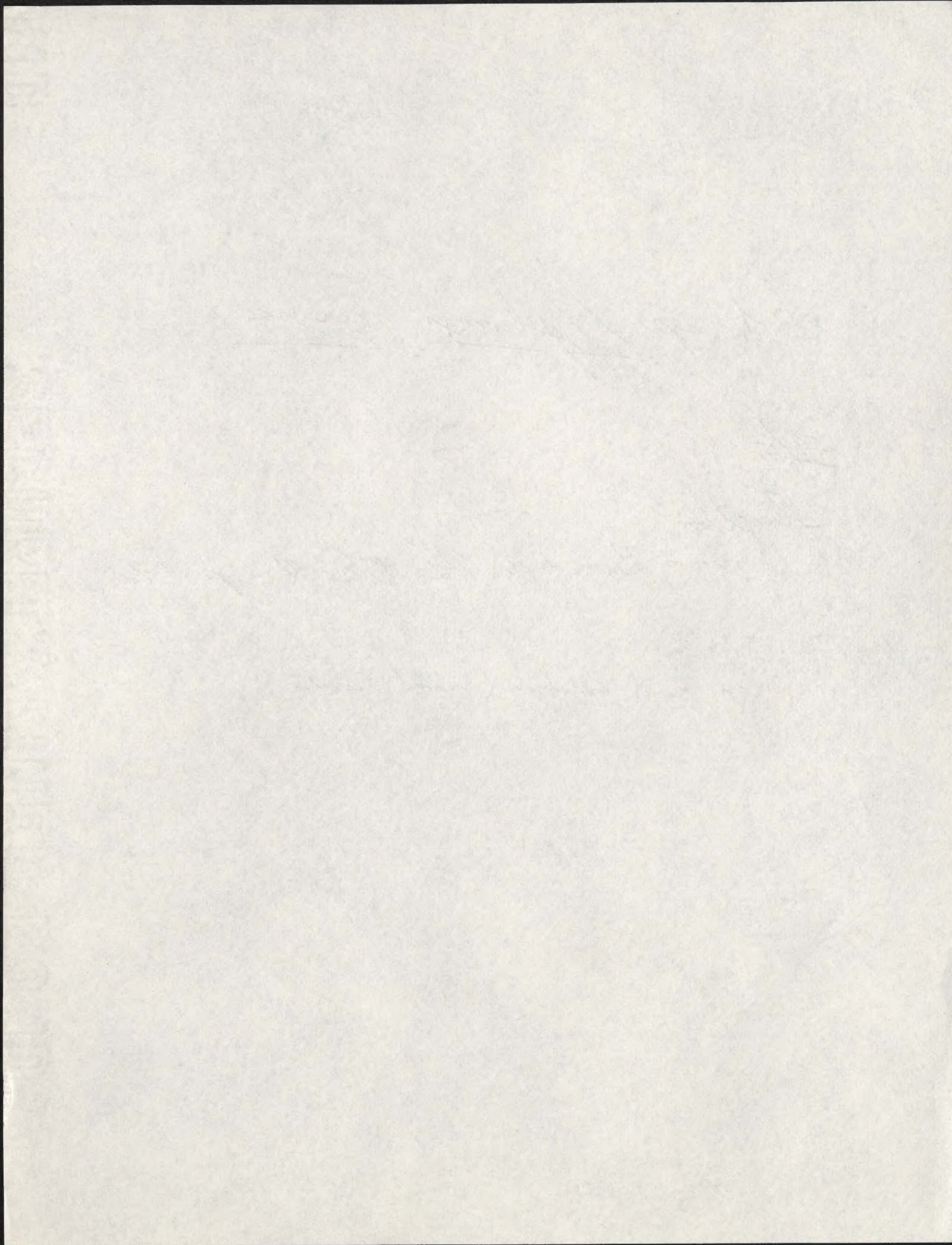
Look up Hydromys oriens

~~The~~

Tonghton

1937 Rec. of Aus. Mus. V 20 Pl. 2 p 127

In card catalogue (original description)

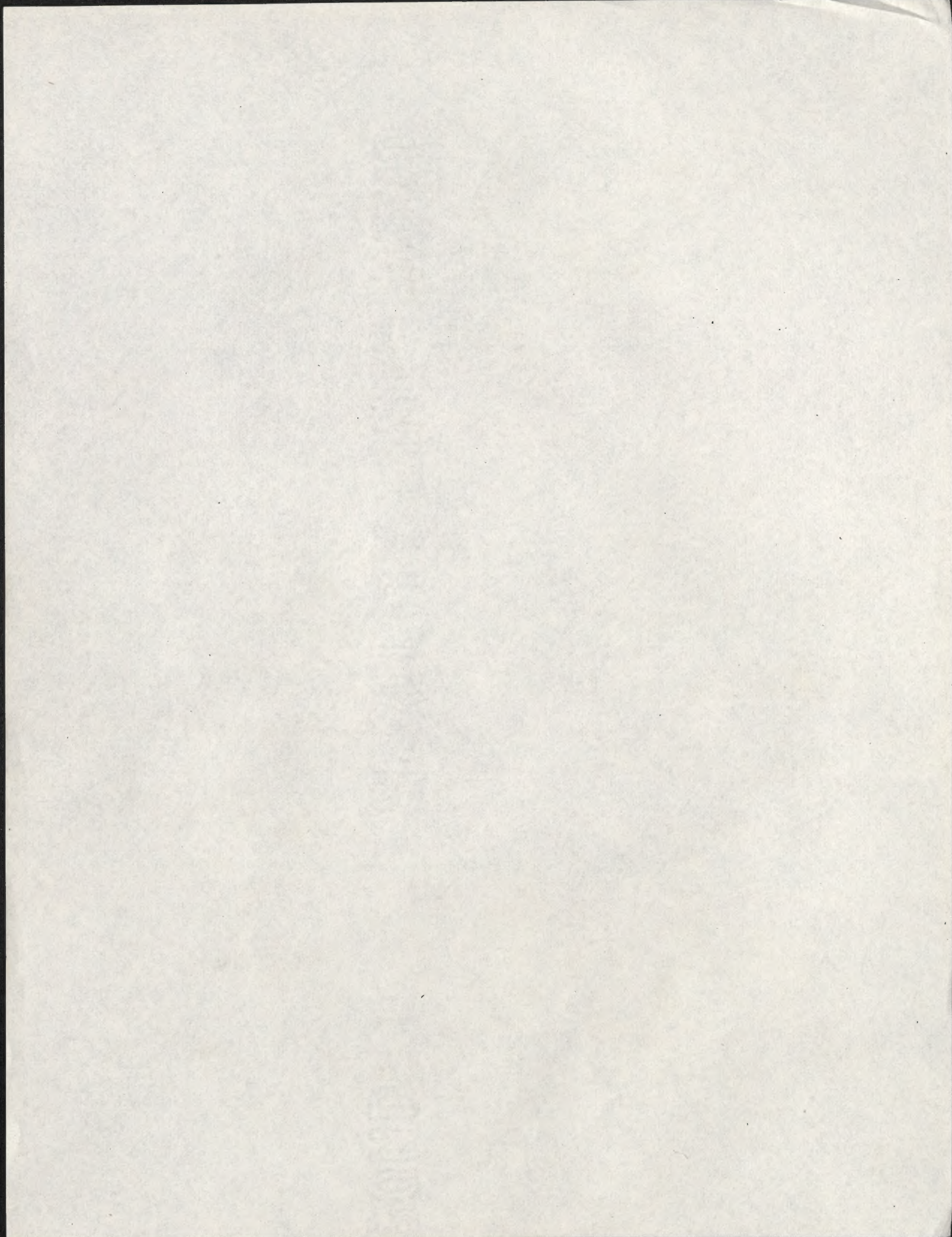


Hydromys

Neohydromys

Pseudohydromys

Leptomys



Plan of Procedure

~~RESULTS OF THE ARCHBOLD EXPEDITIONS. NO.?~~
Total New Hydromine Rodents from New Guinea.

Introduction

Hydrominae

Distinguishing characters

~~List of Genera~~

Comment on Rummlers syn.

——— Neohydromys new Genus

Type of the Genus Neohydromys archboldi

Diagnosis characters

Remarks (See chart)

~~Measurements (See chart No. 2)~~

Neohydromys archboldi new sp.

Type —

Description (including external and skull characters)

Measurements of type (See chart No. 2 Specimen No.?)

List of material

Other Genera — Hydromys, Pseudohydromys

Type citation

Material

Measurements^(see chart) Comments

Comparison of Genera Table

18

22

23

24

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26

27

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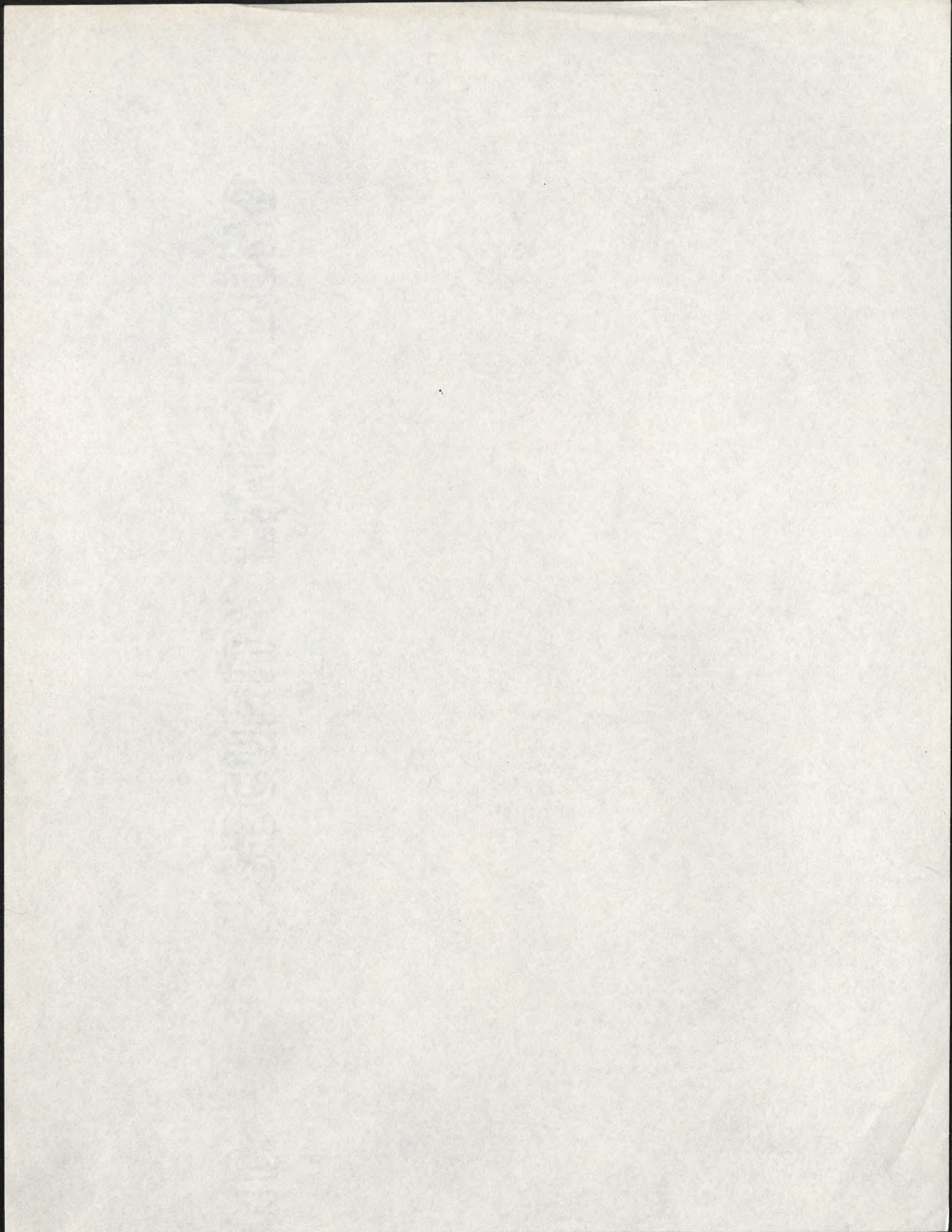
40

41

Introduction

This paper deals with the New Guinea
Hydromys Rodents which were taken on
the Archbold 1938-1939 Expedition
(Indisch Americkaansche Expeditie) under the
auspices of the American Museum of
Natural History.

The region worked was that of the
north slope of the Snow Mountains
from an elevation of 4000 m. down
to 1600 m.; ~~and~~ the mid Idenburg
slope from 2100 m. to the Idenburg
River an elevation of 60 m.; and
Hollandia on the north coast. (See Road —)



Introduction (continued)

Here a comprehensive study and collection of mammals was made, the Hydromine groups of which is here dealt with ^{in the region} ~~in the~~ paper.

The purpose of this treatise is to clarify the sub-family, to describe new genera and species, and to compare other members of the ^{New Guinea} Hydrominae which were taken during the expedition.

22

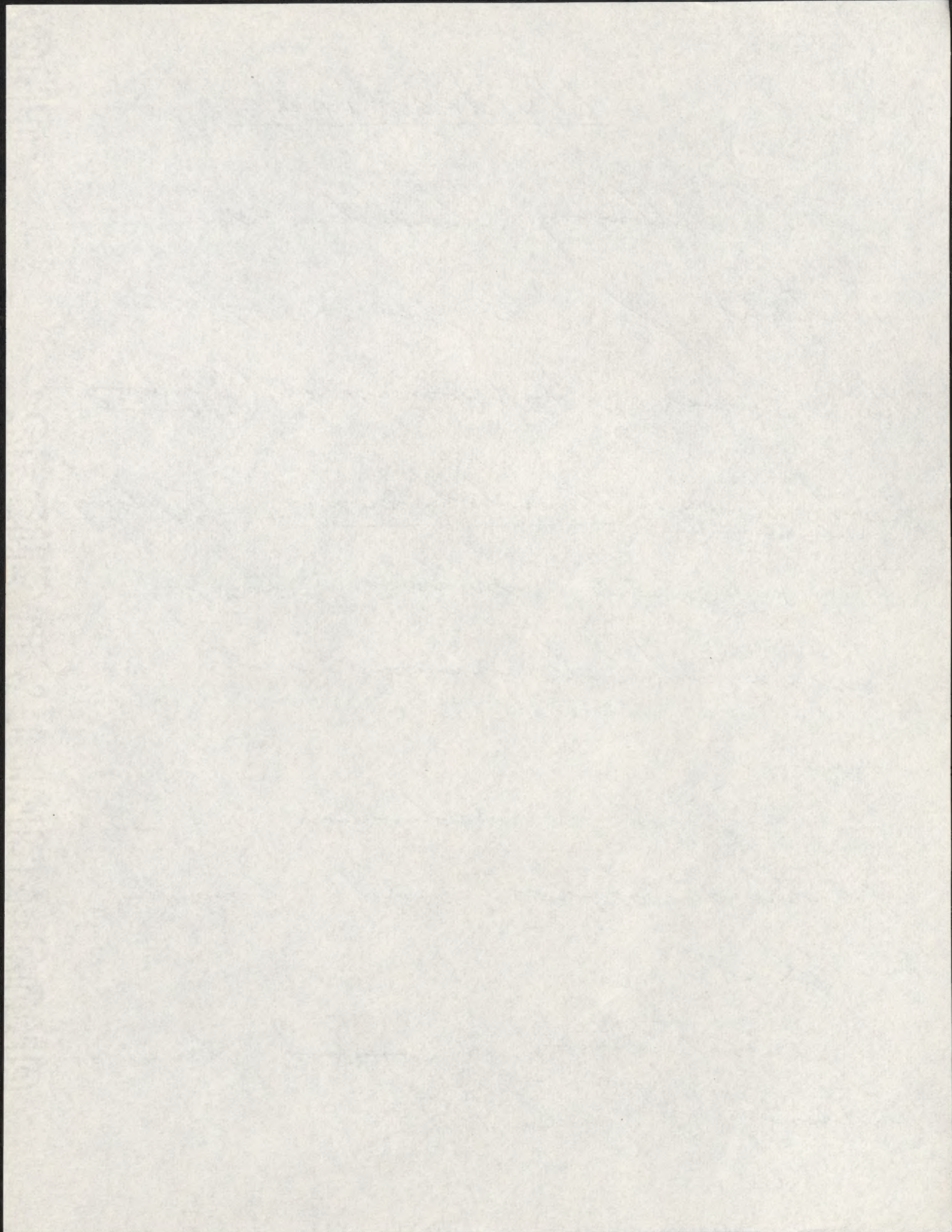
Hydrominae

The following characters are constant for the genera of New Guinea Hydrominae (Hydromys, Neohydromys, Pseudohydromys, Leptomys)

1. Simple molars having basin-like depressions with raised edges.

2. Loss or reduction in size of third molar, and elongation of first.

3. Flattened or concave dorsal outline of skull.



4. Constriction of intertemporal region.

5. Rounded infraorbital canal.

The two genera Crossomys and Parahydromys previously referred to in this group have been included in the genus Hydromys by Hans Rümmler. (Die Systematik und Verbreitung der Muriden Neuguineas, Mitt. Zool. Mus. Berlin, 1938, Band 23, Heft 1, p. 17.)

DATE

RECORDED

INDEXED

FILED

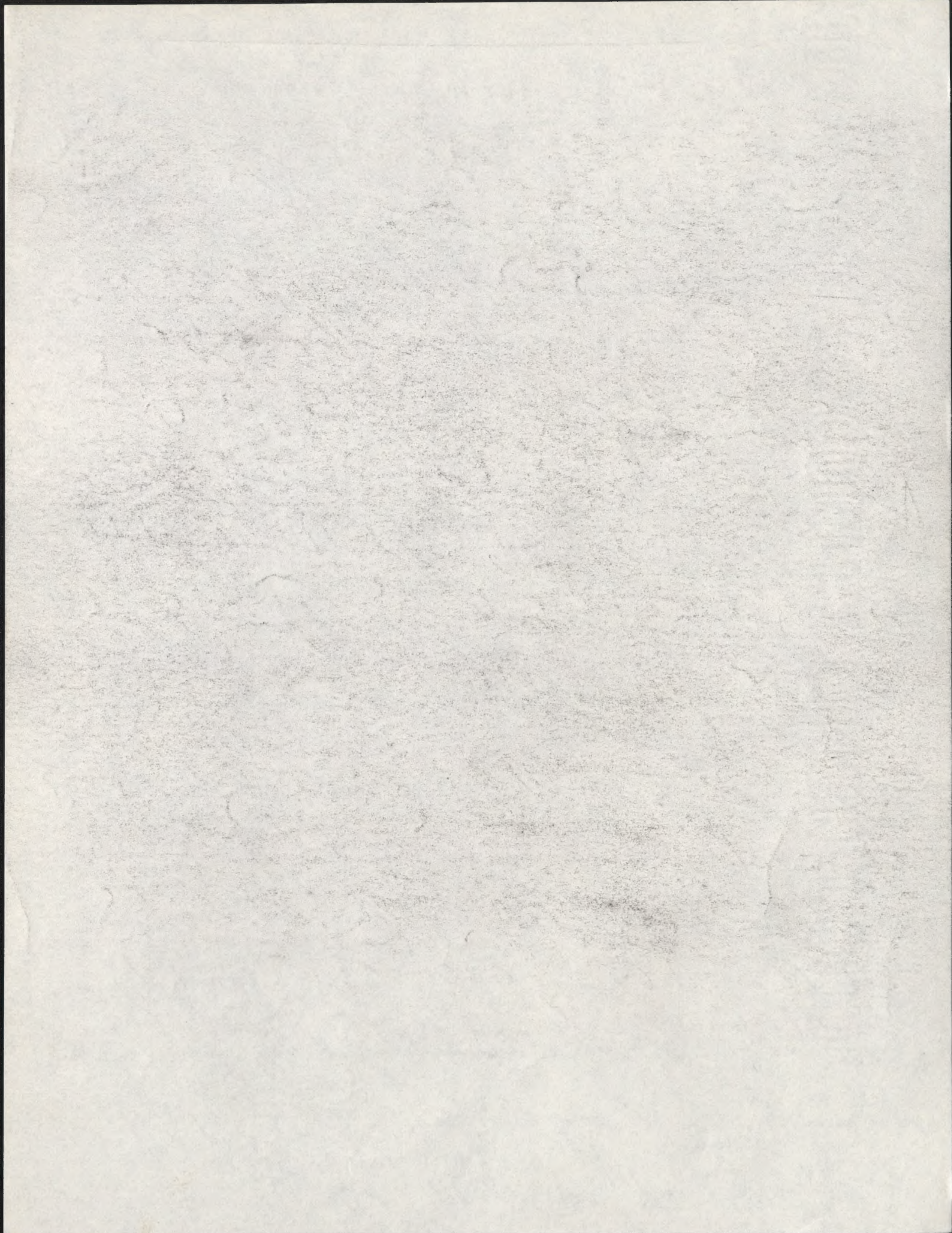
Neohydromys

new genus

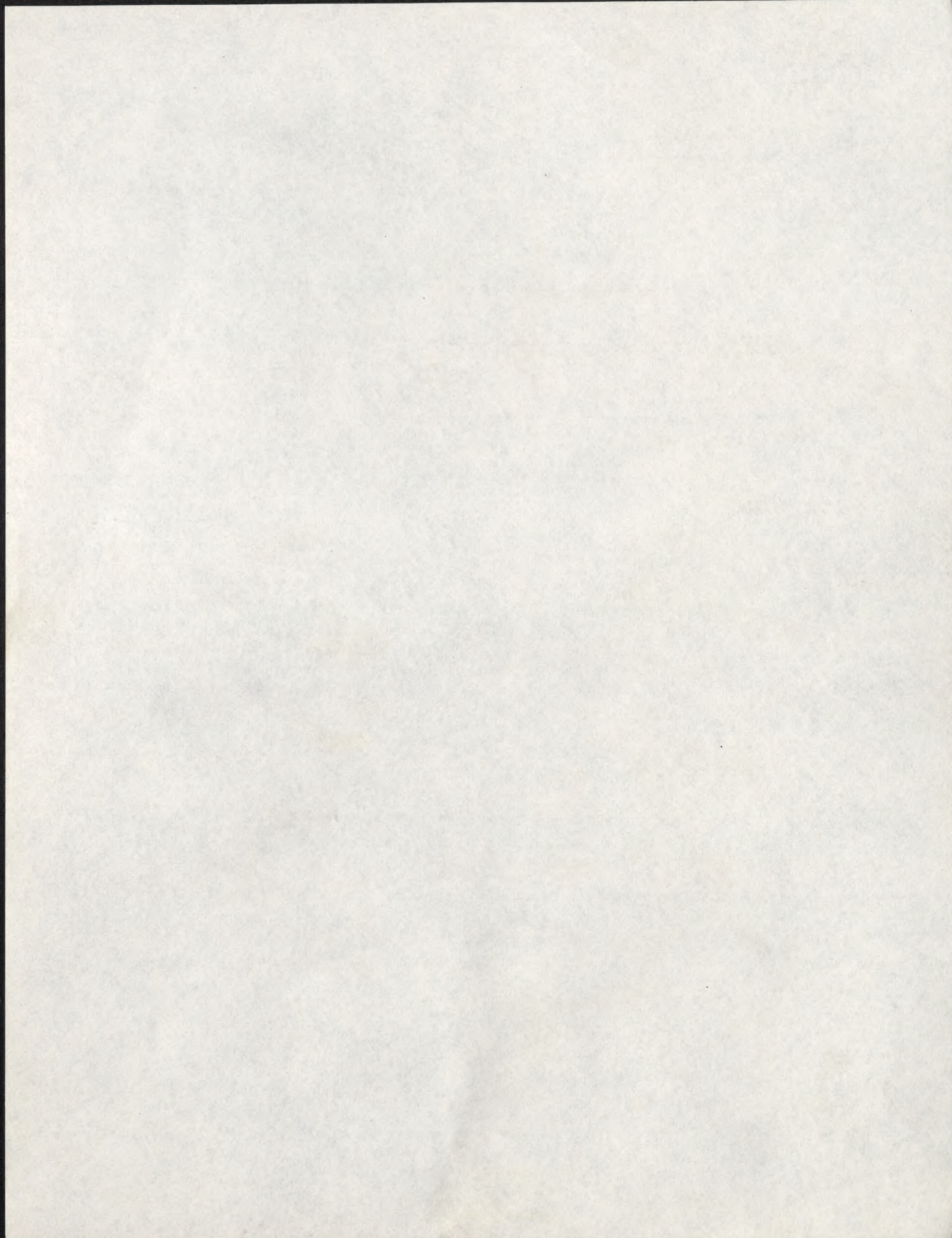
Type of genus Neohydromys archboldi ^{new species} ✓

Diagnosis - Size about that of a ^{soft, thick} ~~small~~ rat; ^{short} ~~tail~~; tail bicolored, slightly longer than body, moderately well haired; ^{hind} ~~feet~~ ^{small well formed inside and out} ~~feet~~ ^{shaggy} with inter digit webbing; Ears $\frac{2}{2}$ typical *Hydromys* molans; skull flat with rounded brain case, constricted ^[?] interorbital region, shortened nasals, rounded infraorbital canal; palatal folds ?

Remarks - From the genera in the sub-family discussed by Tate, Some Muridae of the Indo-Australian Region, Bull. Am. Mus. Nat. Hist., 1936, vol 72, art 6, pp 636 - 639 and by Rummel, Eine neue Muridengattung aus dem Hochgebirge Neuguineas, Zeitschrift für Säugetierkunde, ^{1934,} Bd 9, pp 47 - 48.



Neohydromys differs from its closest
 relative Hydromys in its smaller size, ^{with reduction of} head
 and body ^{length (see table)} ~~being~~ ~~in proportion to~~
 in Hydromys, ~~the~~ ~~is~~ ~~behaves~~ ~~proportionate~~
 difference in ^{and length} hind foot, tail length. The
 pelt though ^{near} ~~not unlike~~ that of Pseudohydromys
 in color and texture differs in ^{skin being} ~~being~~ larger
~~length~~ and ^{with} ~~a~~ more prominent guard hairs
 It resembles Hydromys, ^{and differs from Pseudohydromys and Zenopsis} in possessing webbing between
 the toes and a moderately well haired bicolored
 tail. ~~It differs from Pseudohydromys and~~
~~Zenopsis in ~~presence of~~ Skull differs~~



Type Neohydromys archboldi
Description

The form as compared to that of Hydromys chrysogaster is much smaller. (See measurements) with front feet reduced; fore arm shortened; hind feet broad with well defined webbing between 2nd and 3rd and 3rd and 4th digits; claws relatively heavy only slightly recurved; tail fleshy with a tendency towards being rectangular in cross section; ears small ~~not~~ ^{slot} not reaching tips of surrounding guard hairs, ~~broadly~~ rounded, furled inside and out. V. For further eyes small; pelt thick.

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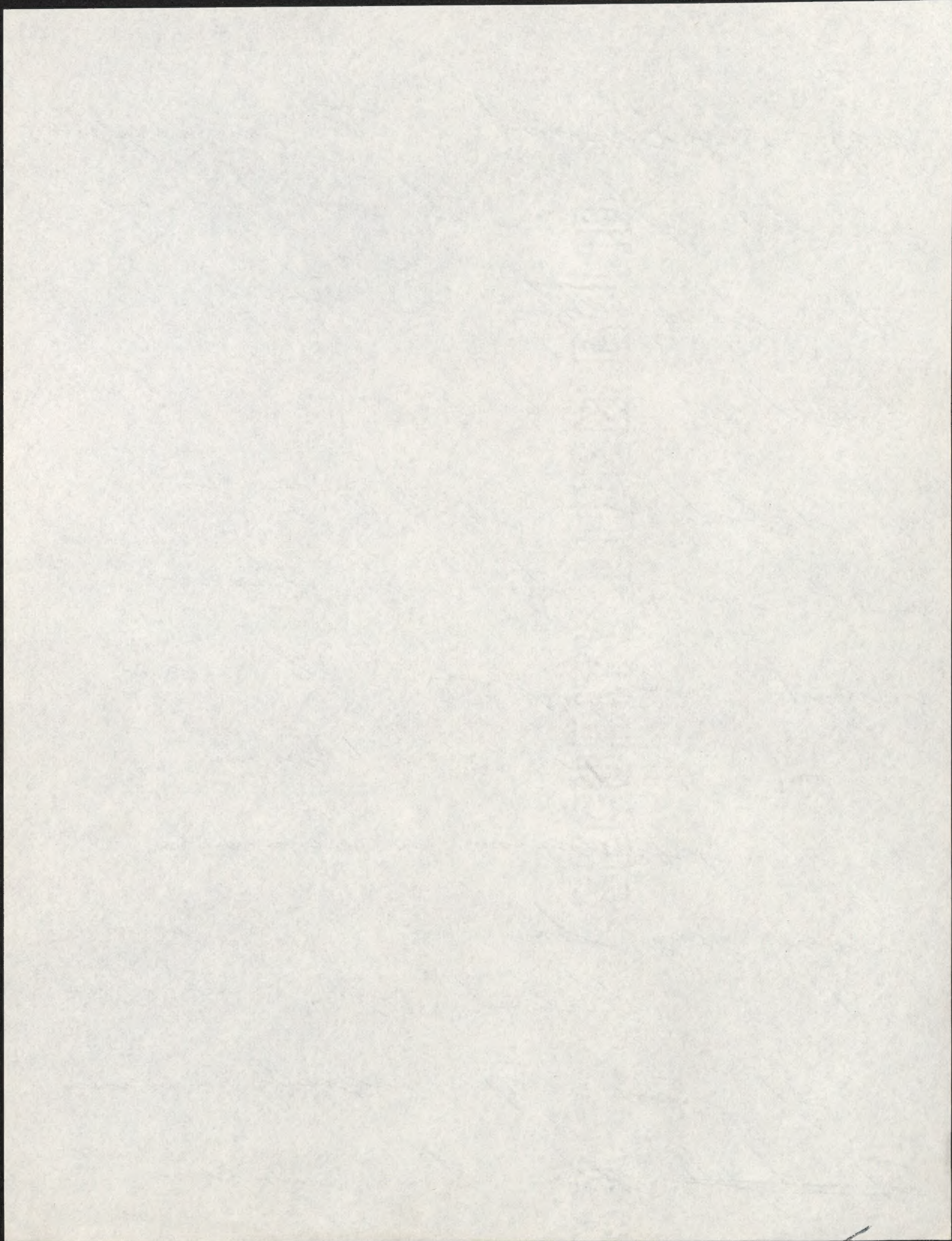
particulars see chart. #

There are two color phases represented in the series which cannot be explained by sexual, ecological, nor geographic differences. The lighter colored phase is represented by 16 individuals, 9 ♂s and 7 ♀s, which are characterized by a uniform ^(?) gray dorsal surface through which white banded guard hairs protrude producing the general effect of silvery flecks on the

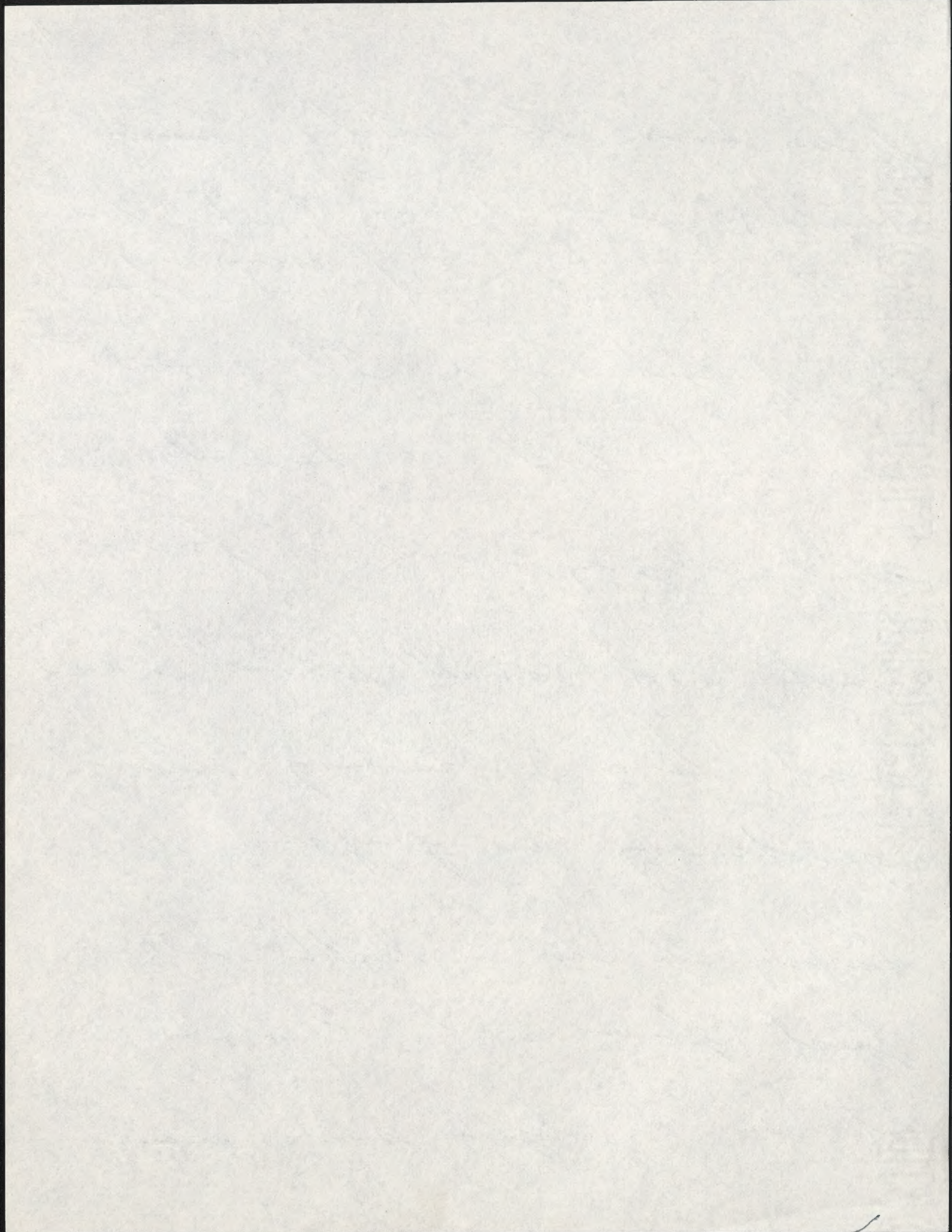
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gray background. The underfur
 plucked from the middle of
 the back has a total
 length of 11 to 12 mm, 10.5 mm
 of which is gull gray and
 a $1\frac{1}{2}$ mm tip of fuscous.

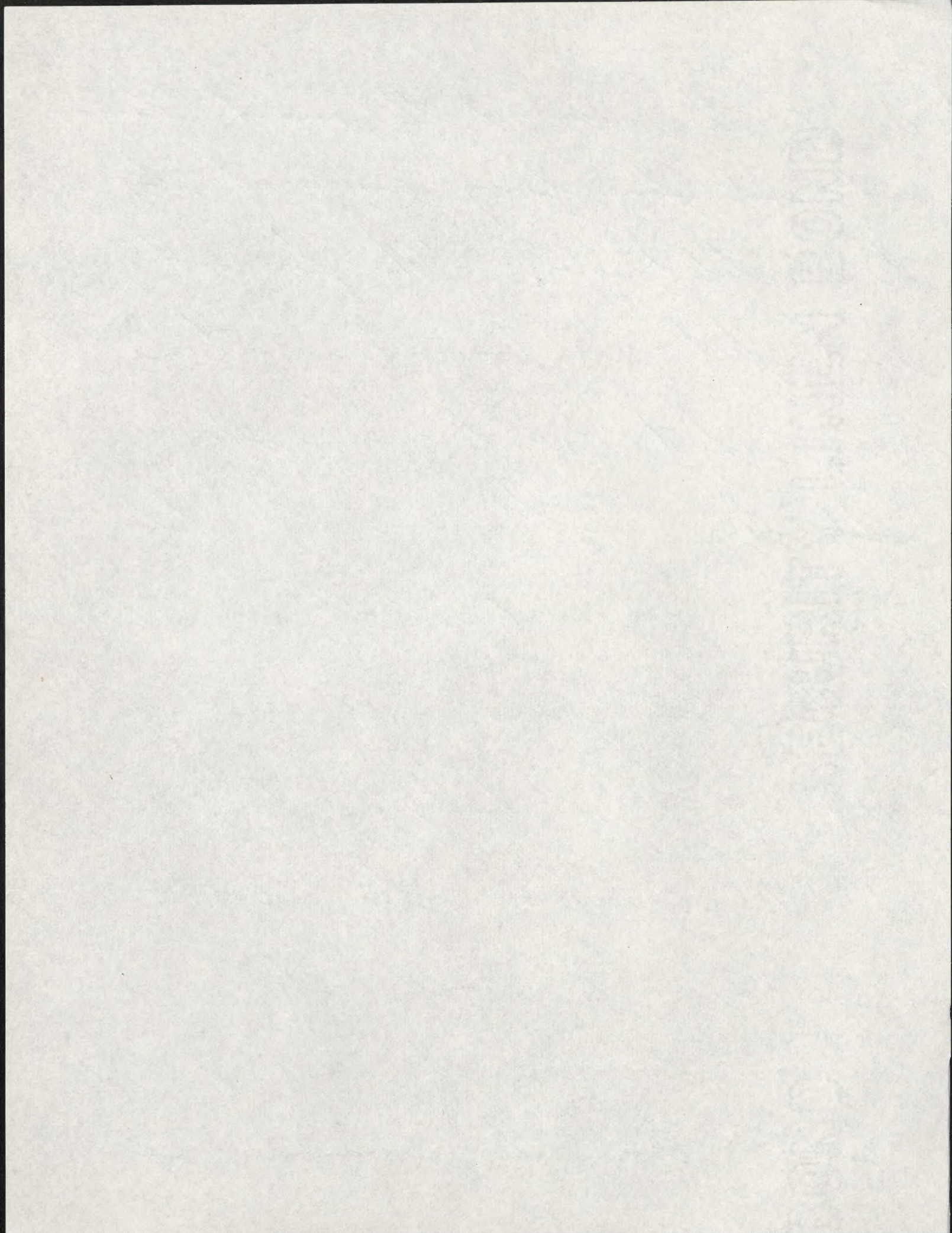
Guard hairs from the same
 region are 15 to 17 mm in
 length possessing a similar
 silver gray base of 10.5 mm
 and a thickened tip. The tips
 are of two types equally numerous;
~~the slightly~~ those of a uniform



fuscus brown color which are ~~usually~~ ^{often}
 slightly longer (by 1-2 mm), and those
 with a whitish band ^(3.5 to 4.5 mm) and a fuscus
 tip of about 1 mm. The general
 color as stated is dorsally a
 uniform gray with a fuscus
 wash and small whitish banded
 guard hairs protruding through
 producing a grizzled effect.
 Laterally the color is lighter with a
 faint fuscus wash. Ventrally
 it is a lighter silver gray



due to the fusion of the guard hairs
and under fur being replaced by
a whitish color. The fore and
hind feet are covered with a
very short white ~~or yellow~~
~~with~~ hair. The ears are furred
inside and out with a short
soft hair gray in color like
that of the body. The tail
at the base and for about
1 cm. of its length has a hair
covering similar to that of the
body. For the remainder of



its length it is covered with
stiffer hair which for ~~the~~ ^{approximately}
 $\frac{2}{3}$ ~~of its length~~ is a fuscous black
in color; the remaining distal third
is white. The tail hair is
unevenly distributed; dorsally being
thinner and shorter (1 to 4 mm) so
the annulations are visible;
ventrally, however, the hair increases
in length ~~and toward the tip~~
obscuring the annulations and
toward the tip forms a ventral posterior
fringe of white hair 6 to 10 mm
in length. The vibrissae ventrally

THE UNIVERSITY OF CHICAGO

are shorter, more numerous, and are whitish in color; the dorsal and longer ones have a dark brown or black base with the distal portion faded a dirty white color.

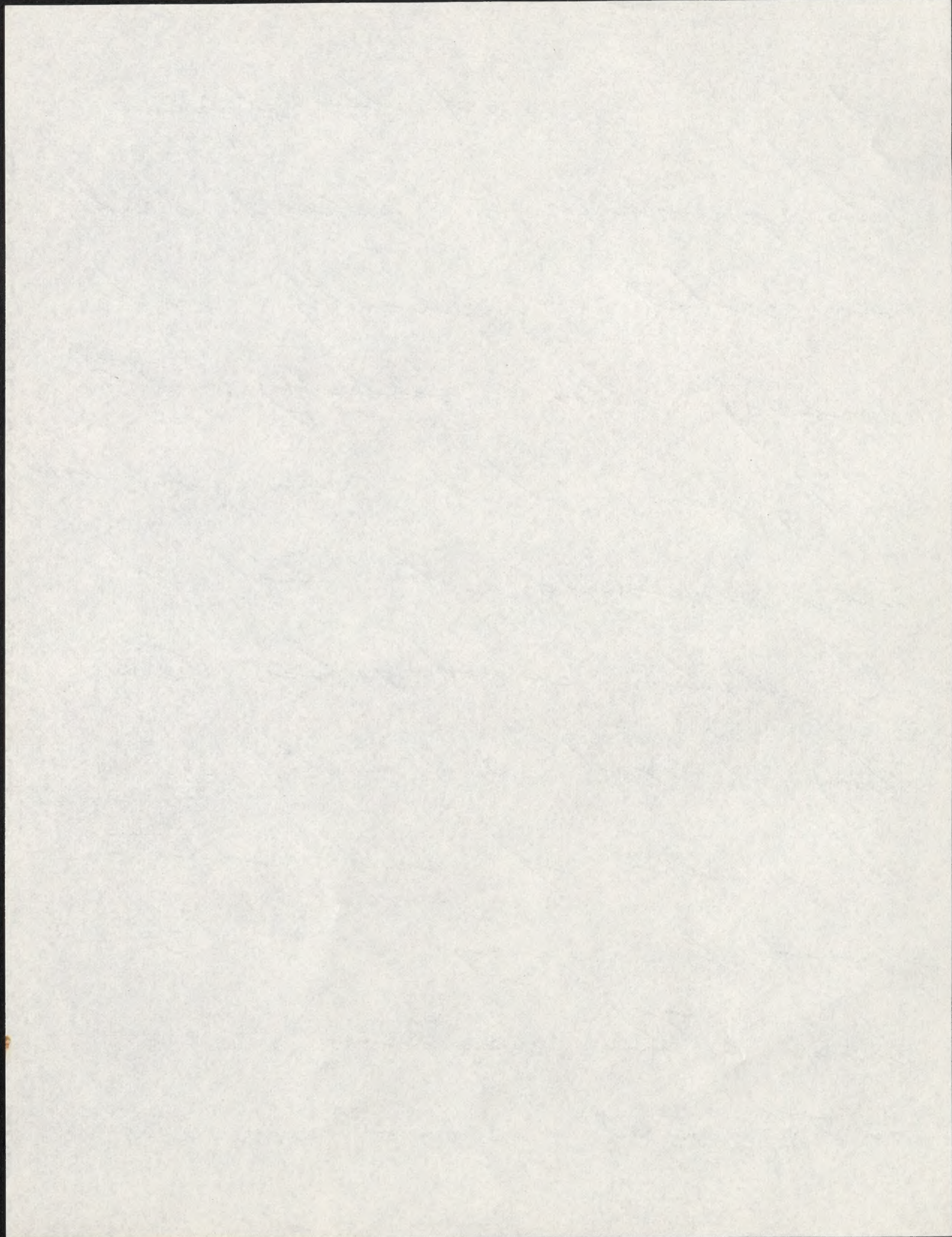
Of the darker colored phase there are 15 individuals, 9 ♂s and 6 ♀s (2 of which are juveniles).

They differ from the lighter phase in that they lack the white of the guard hairs ~~instead~~

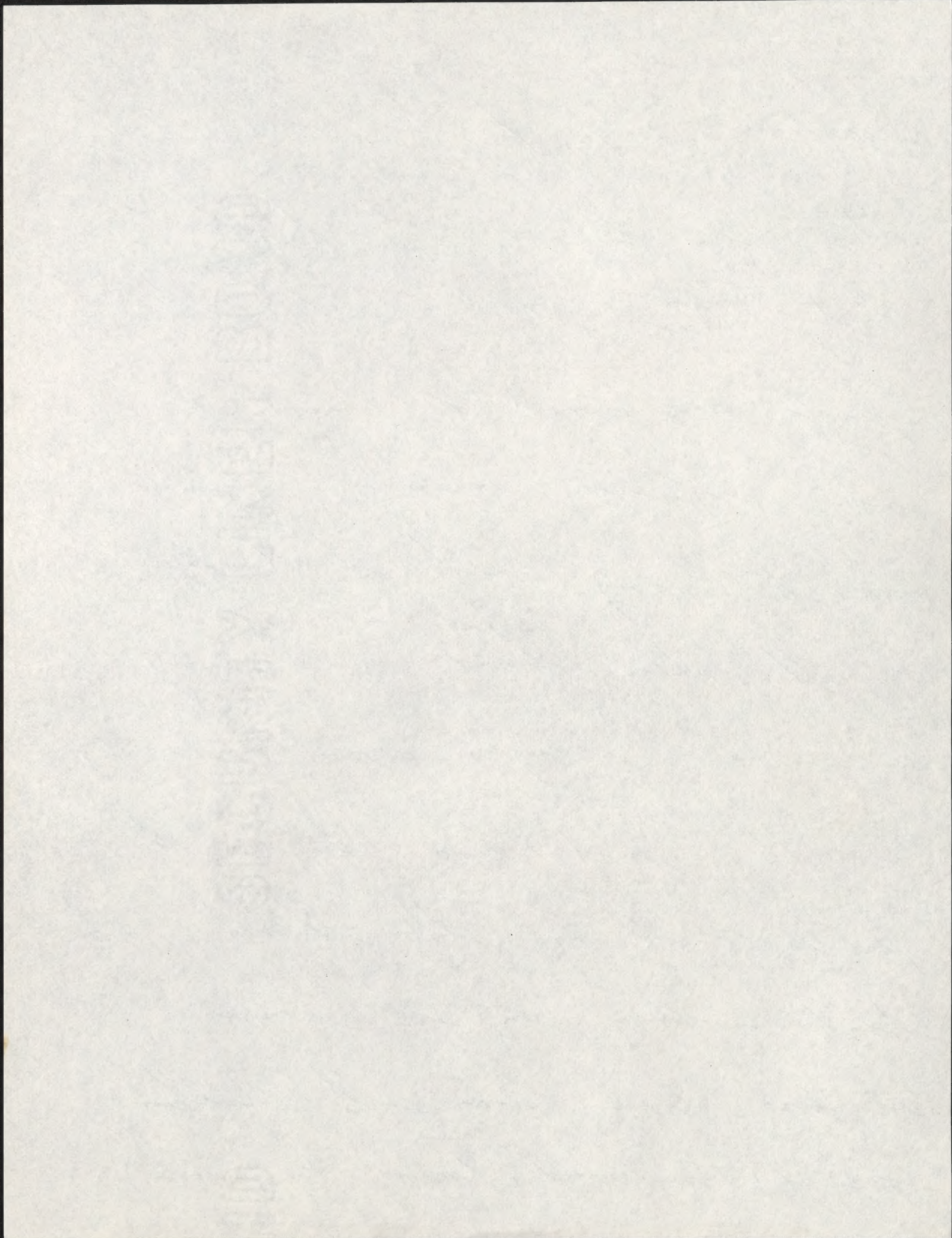
CHURCHMAN AND HIS

which is replaced by fuscus.

This produces a general darker color which is slightly darker dorsally than ventrally. The feet, ears, tail, and vibrissae are similar to that of the lighter colored phase. One thing of note ~~and that~~ is the presence of white spotting formed by a group of white hairs. This spotting occurs in ~~two~~ general regions, one the



posterior half of the back, the
other in the vicinity of the
throat. On the back the
spots are small ($\frac{1}{2}$ to 2 mm diameter)
and vary in number from
one to many. The throat spot
on the other hand is usually
a single larger spot located
on the mid-line between the
prelegs or on the throat. The
back spotting in the series
occurs only on the darker
phase (7 males and 4 females, not on juveniles).



The throat spotting occurred on
8 of the ♂s and 2 of the ♀s only
one (a male) of which was of
the light ~~colored~~ phase.

Description of skull

SECURITY INFORMATION

Measurements of Neohydromys

♂ Total length

320. av.

345. l.

285. s.

♀ Total length

306. av.

350. l.

273. s.

♂ Tail length

169. av.

187. l.

145. s.

♀ Tail length

163. av.

190. l.

143. s.

♂ Hind foot length s.u.

36. av.

39. l.

33. s.

♀ Hind foot s.u.

35. av.

38. l.

33. s.

♂ Ear from crown

9. av.

10. l.

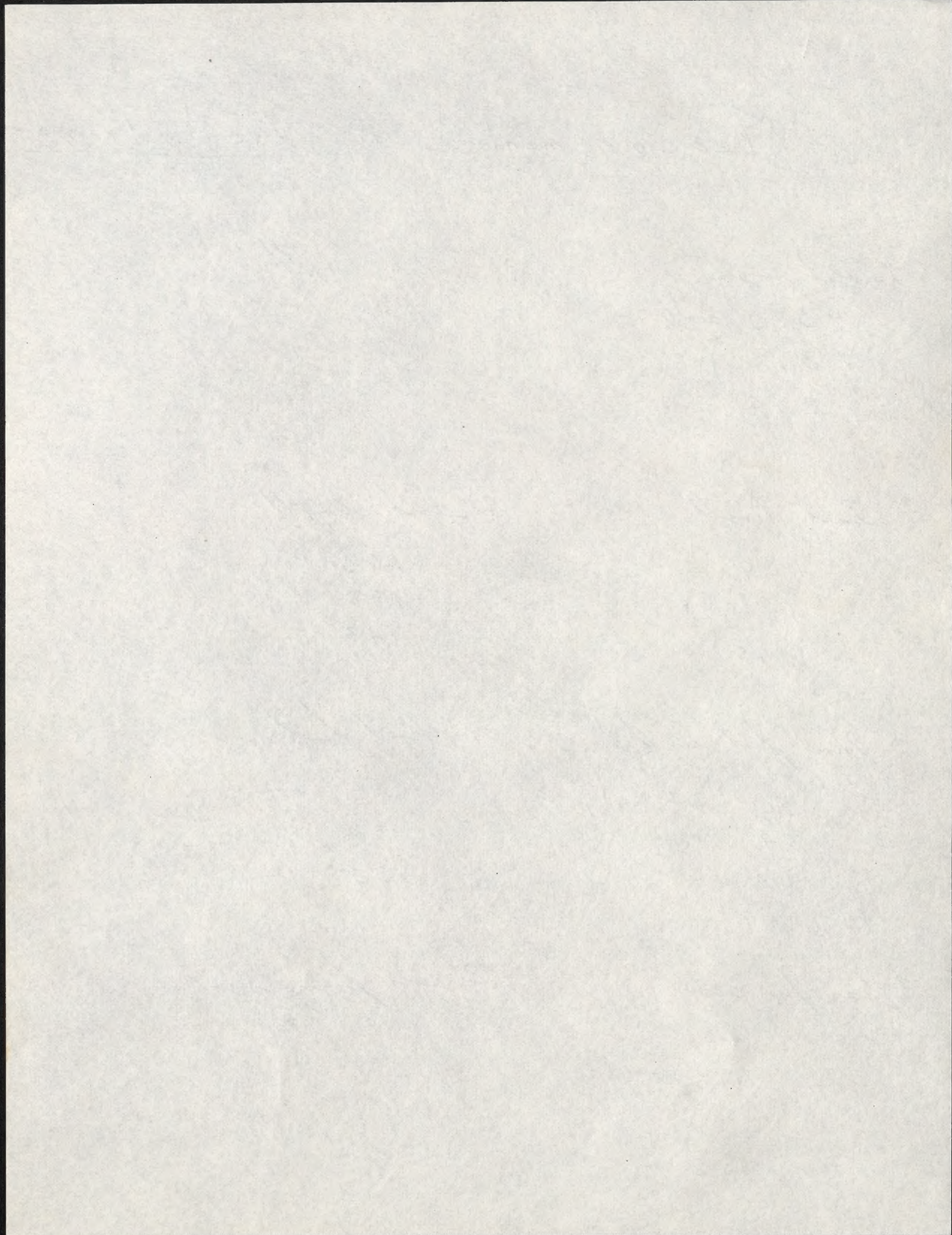
8. s.

♀ Ear from crown.

8. av.

9. l.

7. s.



Hydromys

Neohydromys

Pseudohydromys

Leptomys

Tail

Fleshy.

10 mm diameter 10 mm
from base.

Well haired.

Poorly developed posterior
dorsal fringe (except Hesper)

Bicolored.

Length 200-350 mm

Moderately fleshy.

5 mm diameter 10 mm.
from base.

Moderately well haired.

Well developed posterior
dorsal fringe

Bicolored.

Length 190-143

Not fleshy

3 mm diameter 10 mm
from base.

Sparsely haired.

No dorsal fringe

Monocolored.

Length 95 mm

Not fleshy

— diameter 10 mm
from base.

Sparsely haired.

No dorsal fringe.

Monocolored.

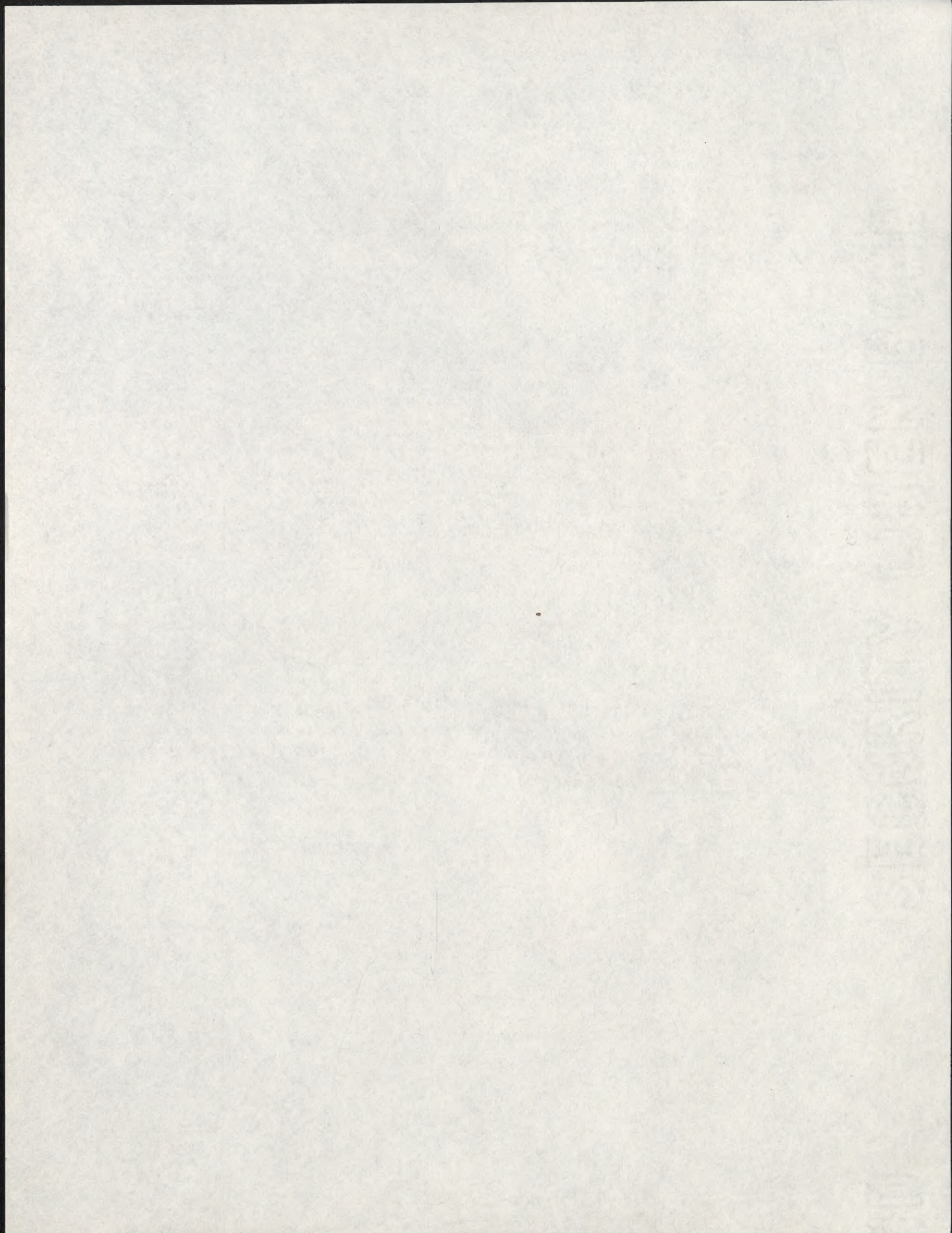
Length 134-172

Pelt.
(See other
reference)Length of guard
hair taken from
middle of back18-18 mm. Length
of underfur 6-11 mm.Length of guard hair
taken from middle of
back 15-17 mm. [14-16] ^{length}Length of underfur
11-12 mm.Length of guard
hairs taken from
middle of back
7-9 mm.Length of underfur
6-7 mm.Length of guard
hair taken from middle
of back 7-10 mm

Length of underfur 6-8

Habitat

Frequent streams
on river banks of
forested lowland
and mountain areas.Frequent grassy borders
of streams and lakes
at high elevations
(2500 ft above)Occurs in mixed cover
of brush, grass, and
small trees of high.
(Not restricted to
lake borders.)One exception and that
individual was taken
on moist littered
floor of the rain
forest.Palatal
folds



Hydromys

Neohydromys

Pseudohydromys

Leptomys

	Hydromys	Neohydromys	Pseudohydromys	Leptomys
Size	Large. Head and body length <u>205-350 mm</u>	Medium. Head and body length <u> </u> - <u> </u> mm	Small. Head and body length <u>91 mm</u>	Medium. Head and body length <u>124-162 mm</u> .
Pelt (see other reference)	Hard to soft texture. Agouti brownish-black, light belly. No white ^{ump} speckling.	Very soft texture. Gray monocolored some with light belly. White ^{ump} speckling.	Very soft texture. Gray monocolored. White ^{ump} speckling.	Soft texture. Buff ^{brown with} white belly. No white ^{ump} speckling.
Ears	Small to large <u>15-22 mm</u> . Nearly naked. May or may not protrude beyond surrounding fur.	Small. <u>10-7 mm</u> . Furred inside and out. Does not protrude out of surrounding fur.	Small. <u>12 mm</u> . Nearly naked. Protrude beyond surrounding hair <u>1 to 2 mm</u> .	Large <u>20-21 mm</u> . Nearly naked. Protrude beyond surrounding hair <u> </u> .
Vibrissae	Length of longest <u>60-75</u> . Numerous (particularly in <u>H. c. 50x</u>). Protruding from bulging lips.	Length of longest <u>45-60</u> . Numerous. Protruding from bulging lips.	Length of longest <u>25-40</u> . Moderately numerous. No bulging of lips apparent.	Length of longest <u> </u> . Moderately numerous. No bulging lips.
Front feet	The pad at the base of the halix and that of the base of the 1st finger divided by deep cleft. Hair at base of foot approximately <u>13 mm</u> long.	The pad at the base of the halix and that at the base of the 1st finger divided by <u> </u> . Hair at base of foot approximately <u>8 mm</u> long.	The pad at the base of the halix and that at the base of the 1st finger is separated by <u>1 mm</u> . Hair at base of foot approximately <u>10 mm</u> .	
Hind feet	Fleshy. Laterally broadened. Well defined webbing between 2nd and 3rd and 3rd and 4th digits. Length <u>46-66 mm</u> .	Fleshy. Laterally broadened. Well defined webbing between 2nd and 3rd and 3rd and 4th digits. Length <u>39-33</u> .	Not fleshy. Not broadened laterally. No webbing. Length <u>19 mm</u> .	Not fleshy. Not broadened laterally. No webbing. Length <u>36-40 mm</u> .

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External

- ① ~~Size~~
- ② ~~Pelt~~ (soft and thick, color)
- ③ ~~Color~~
- ⑦ ~~Tail~~ (thickened, bushy, haired, visible scales, ornamentation, proportion to body length.)
- ⑥ ~~Head~~ ~~Foot~~ (thick, broadened, number of digits)
- ⑧ ~~Palatal folds~~ (3 ±)
- ④ ~~Corn~~ (small external)
- ④ ~~2.5 mm~~
- ⑤ ~~Front feet~~

Skull

- Molars (length $\frac{3}{2}$ typical)
- Cranium (flat, rounded)
- Jaw bones (Truncated)
- Infraorbital canal
- axis of upper envisions is greater than 90° angle with nasals.
- Form of upper envisions
- (T) Zygomatic notch
- (T) Suberch lip process of maxilla muscle (20 and midline tongue)
- (T) Reduction of bulla (, ?)
- Inter orbital region (constricted)
- Multirooted tooth.

10

STANDARD CLIMATE BOOK

Pseudo,

Rectangular

3 hairs per scale



Neo.

Rectangular

3 hairs per scale



H. Rec.
3 hairs



Were named from size and bulk

Type

Dyognostic characters

Description

External chacters

Color

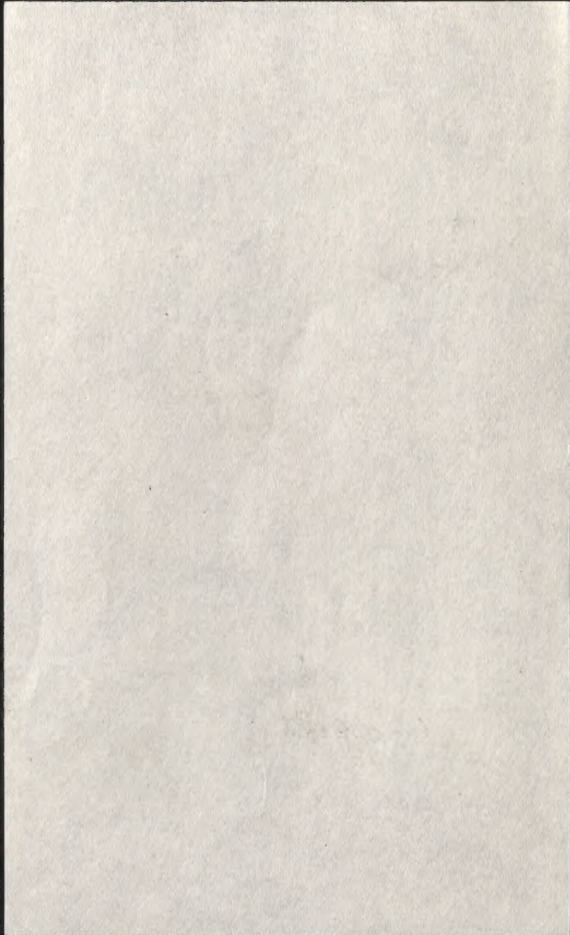
Skull

Measurements

Comparison

Material

Remarks



SPECIES

Hydromys chrysogaster

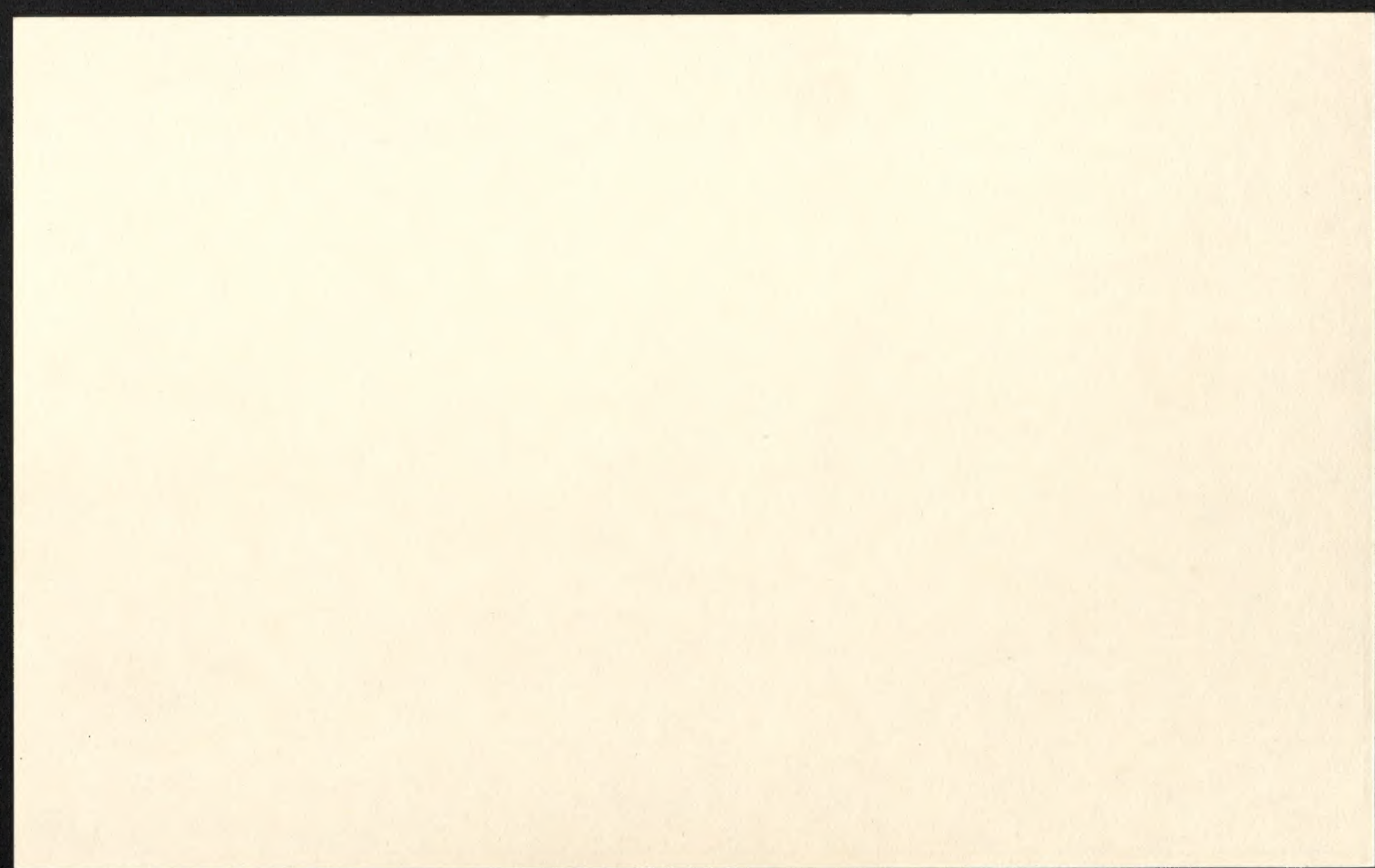
LEGEND

SUBSPECIES

LOCALITY

SPECIMEN

Specimens recorded in literature.



SPECIES

Hydromys chrysogaster

LEGEND

SUBSPECIES

LOCALITY

SPECIMEN in Am. Mus. Nat. Hist.

1 esox

Baruari rest house

#108470

2 illuteus

4 km SW Bernhard Camp

#152072, ^{*}-73, ^{*}-74, ^{*}-75, ^{*}-76.3 illuteus

Bernhard Camp

#152077, ^{*}-78.

4 ?

Hollandia

#109503

5 Papua

Upper Fly River

#105201

6 tarara

Wasi Kussa

#105782

7 "

Gaima

#105781

8 "

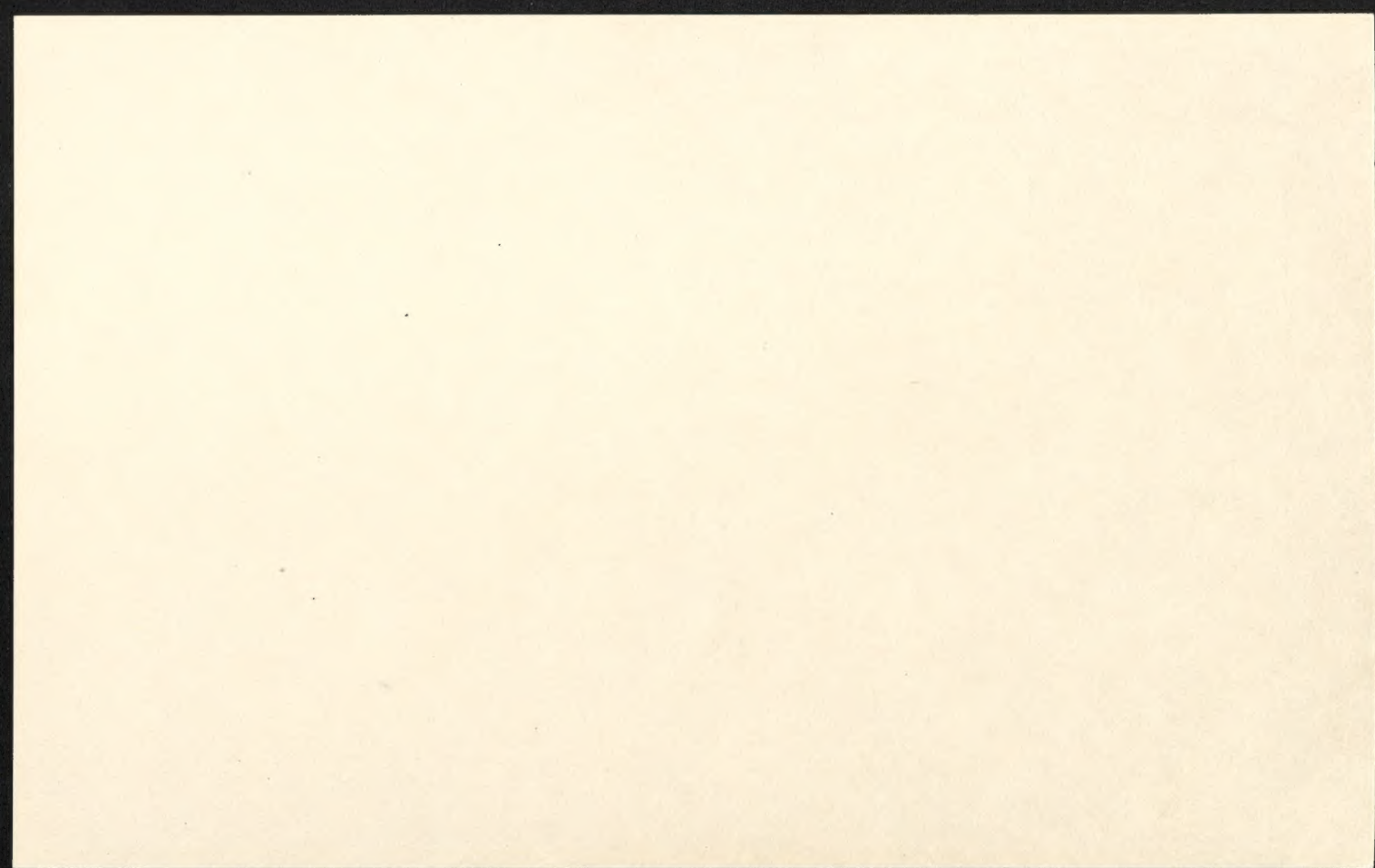
Sturt Island

#105778 - ^{*}105780

9 "

Lake Daviumbu

#105772 - ^{*}105777



SPECIES *Hydromys chrysogaster*

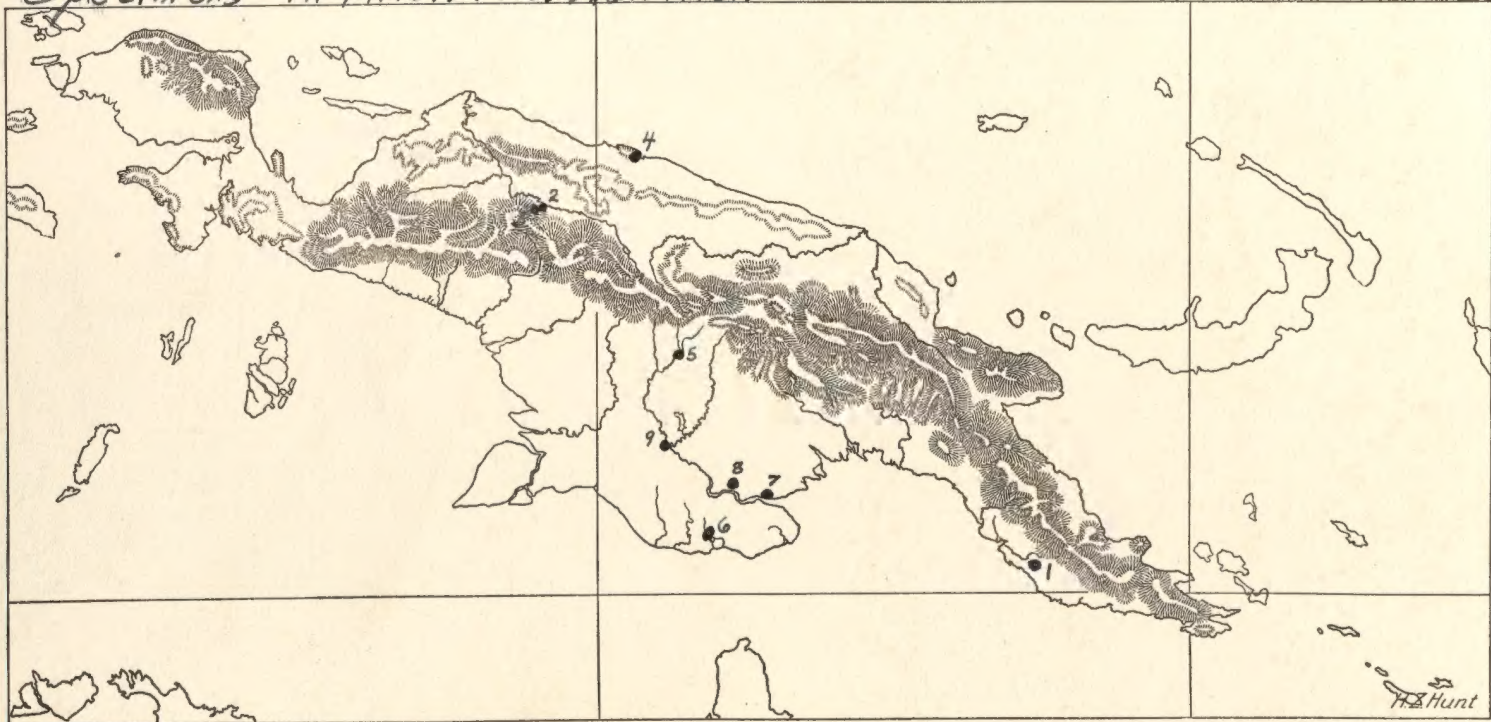
LEGEND

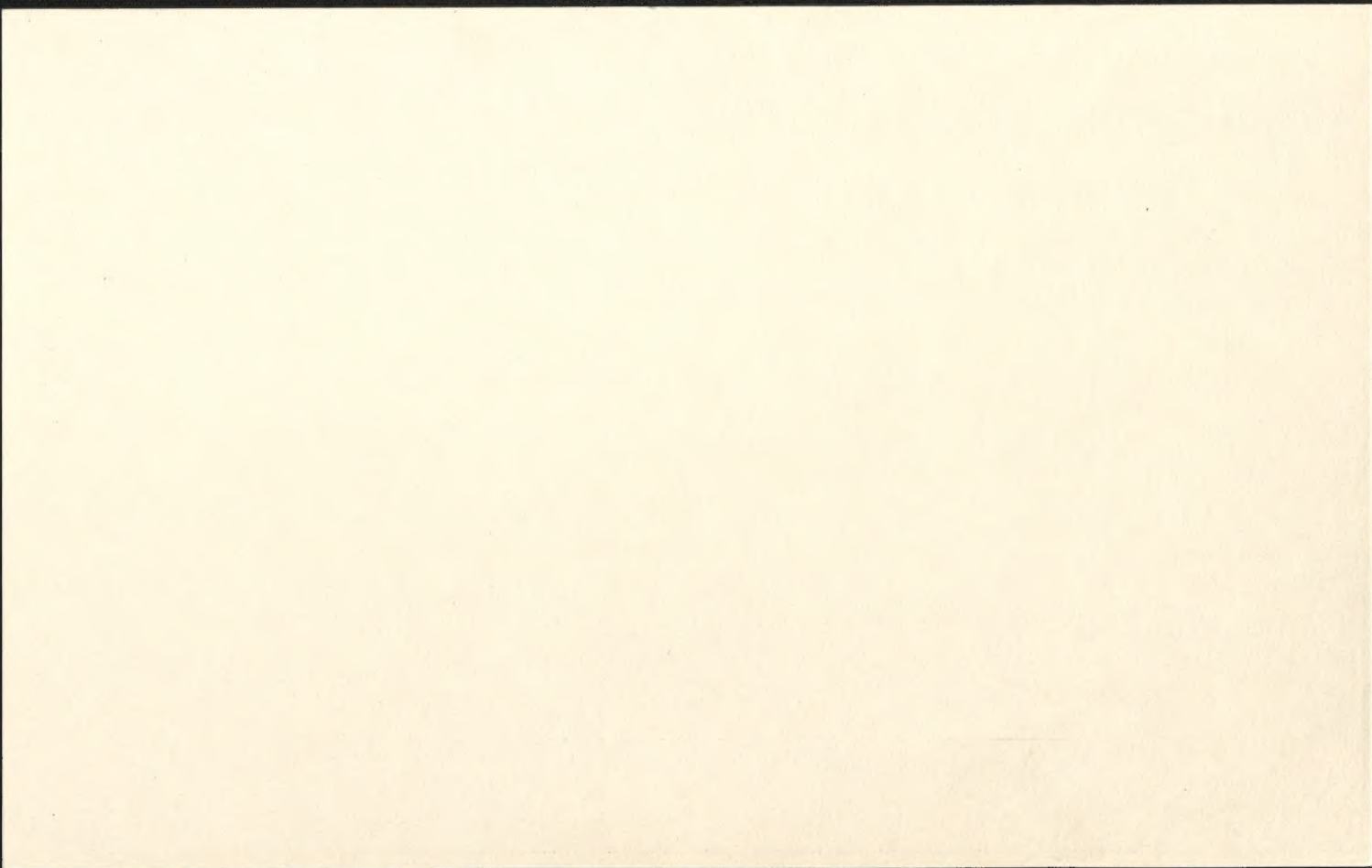
SUBSPECIES

LOCALITY

SPECIMEN

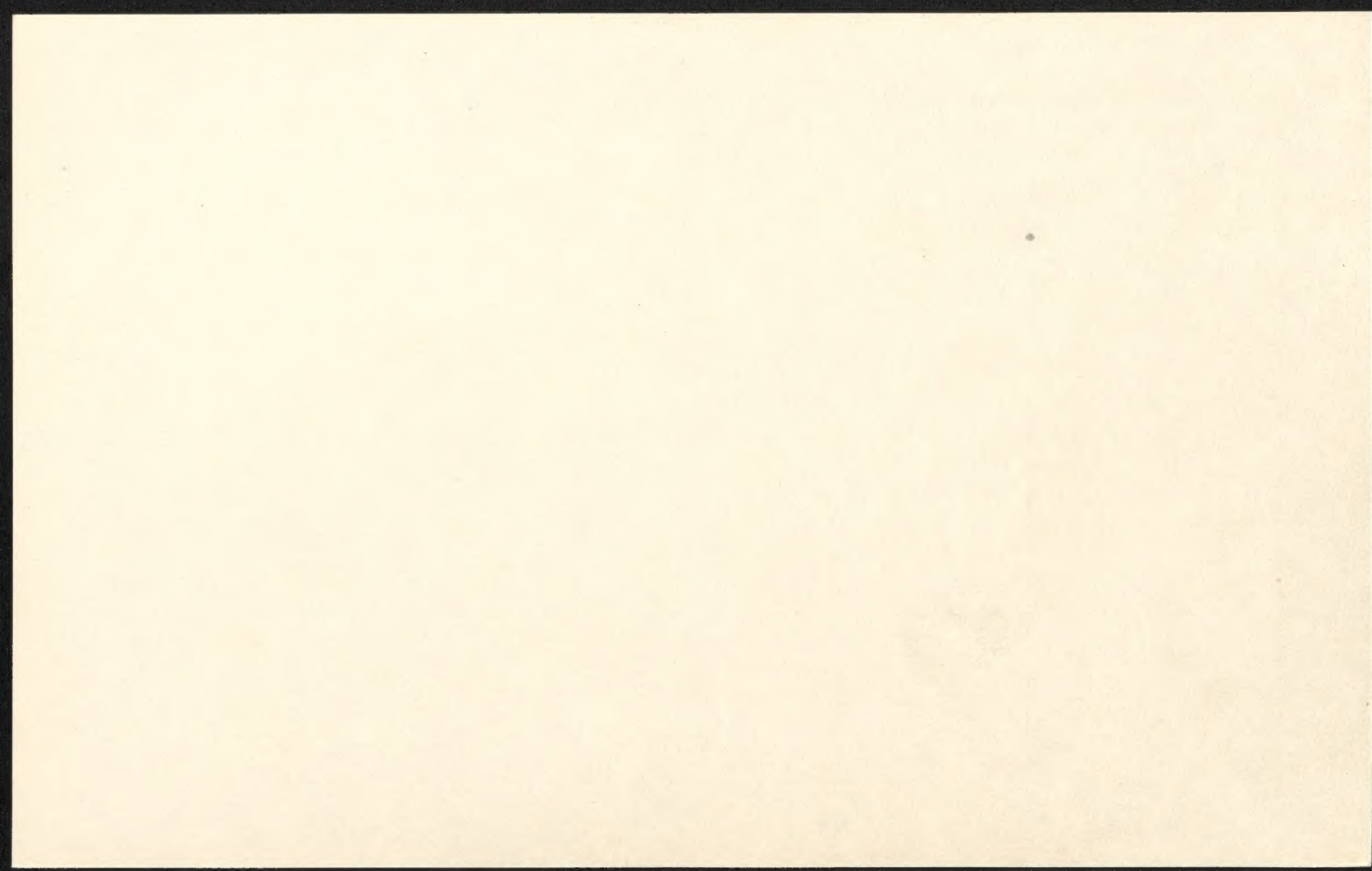
Specimens in Amer. Mus. Nat. Hist.





SPECIES *Hydromys chrysogaster*

LEGEND	SUBSPECIES	LOCALITY	
Thomas 1897, p. 607 13. ?	Haveri, near Mt. Wori-Wori, Astrolaub Range	1 British Mus., collected by Loria.	
Stein 1938, p. 123 14. ?	Japan	1 Stein collection. [3 specimens recorded by Rummel]	
Rummel 1938, p. 24 15. ?	Sattlborg	1 in Leiden, 1 in Berlin Mus.	
16. ?	Astrolabe Bay	1 Berlin Mus.	
17. ?	German New Guinea	1 Berlin Mus.	
Heller, 1897, p. 3 X	Sorong	Not <u>Hydromys</u> [See Rummel 1938, p. 24.]	
Tate, 1936, p. 643 18. ?	D'Ent Waigeu Isl.	1 in Field Museum #31847.	



SPECIES *Hydromys chrysogaster*

LEGEND SUBSPECIES LOCALITY SPECIMEN

Tate + Archbold, 1935, p. 8

7. neobritannicus (Gün.) Bainings, Balayang, Wide Bay, New Britain, Solomon Isl.

1 in Amer. Mus. Nat. Hist., collector W.F. Coultas

Thomas 1921, p. 430

8. melicertes (Tyro) Biro, Apsley Straits, Melville Island.

1 in London Mus.

Thomas 1922, p. 731

9. ? Kloof birak, Noord R.

2 in Liden Mus.

Jentink 1911, p. 168

10. ? Bivak Island

7 specimens

Jentink 1907, p. 5

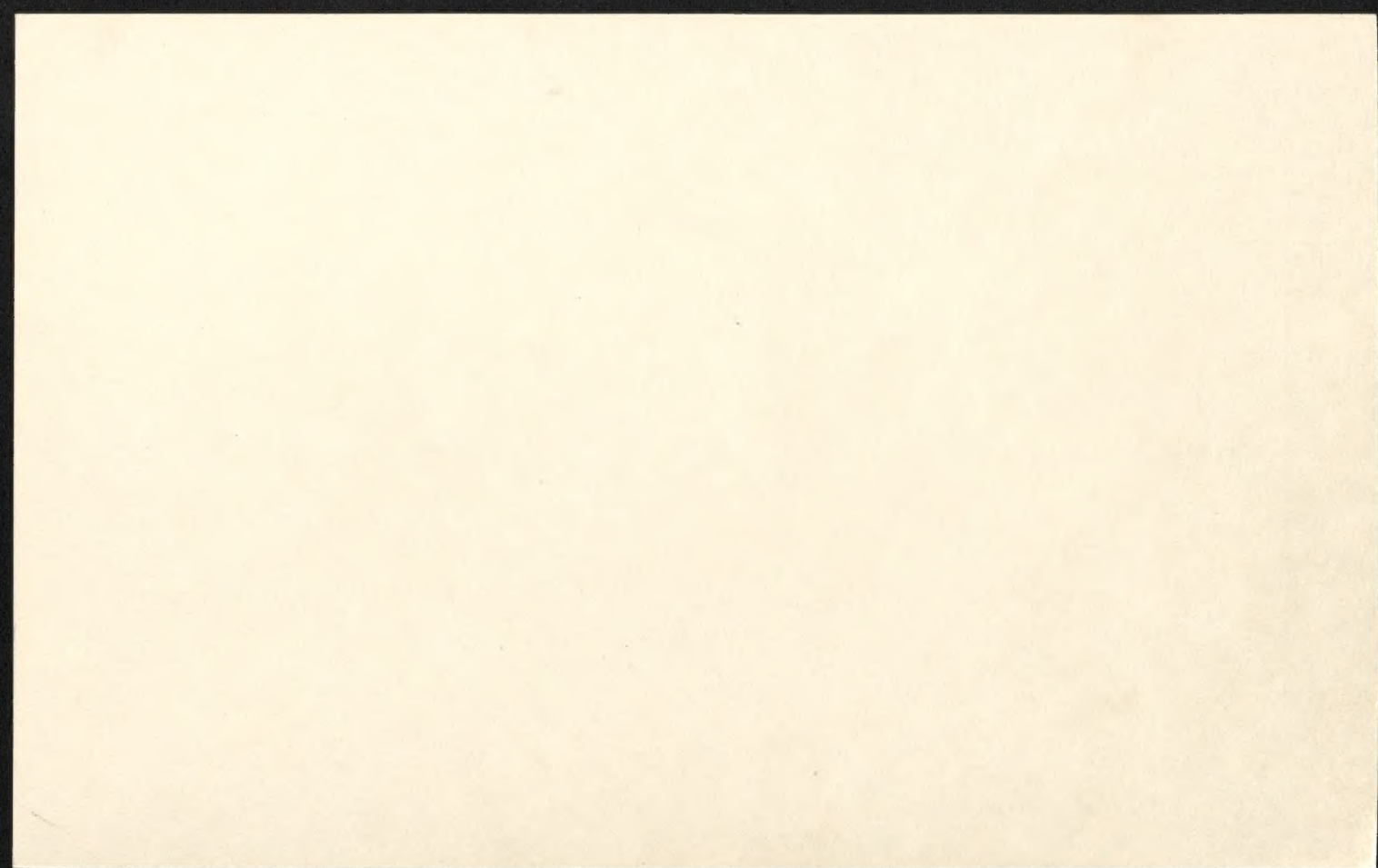
11. ? Sabang

1 Lorentz collector., Leiden Mus.

Peters + Doria 1881, p. 706

12. ? Fly

1



SPECIES *Hydromys chrysogaster*

LEGEND

SUBSPECIES

LOCALITY

SPECIMEN

Thomas 1906, p. 324

1. esox (Type)

Port Moresby

1 in London Mus.

Thomas 1922 p. 264

2. illoteus (Type)

Prauwen bivak, Idenburg R.

1 in London Mus., collected by van Heurn

Throughton 1937, p. 127

3. oriens (Type)

Mt. Lamington

1 in Australia Museum, coll. by C.T. Mc.Namara

Throughton 1935 p. 254

4. moae (Type)

Banks Island, Torres Strait

2 in Australia Museum

Peters 1874 p. 302

5. beccarii (Type)

Weri, Kei Islands

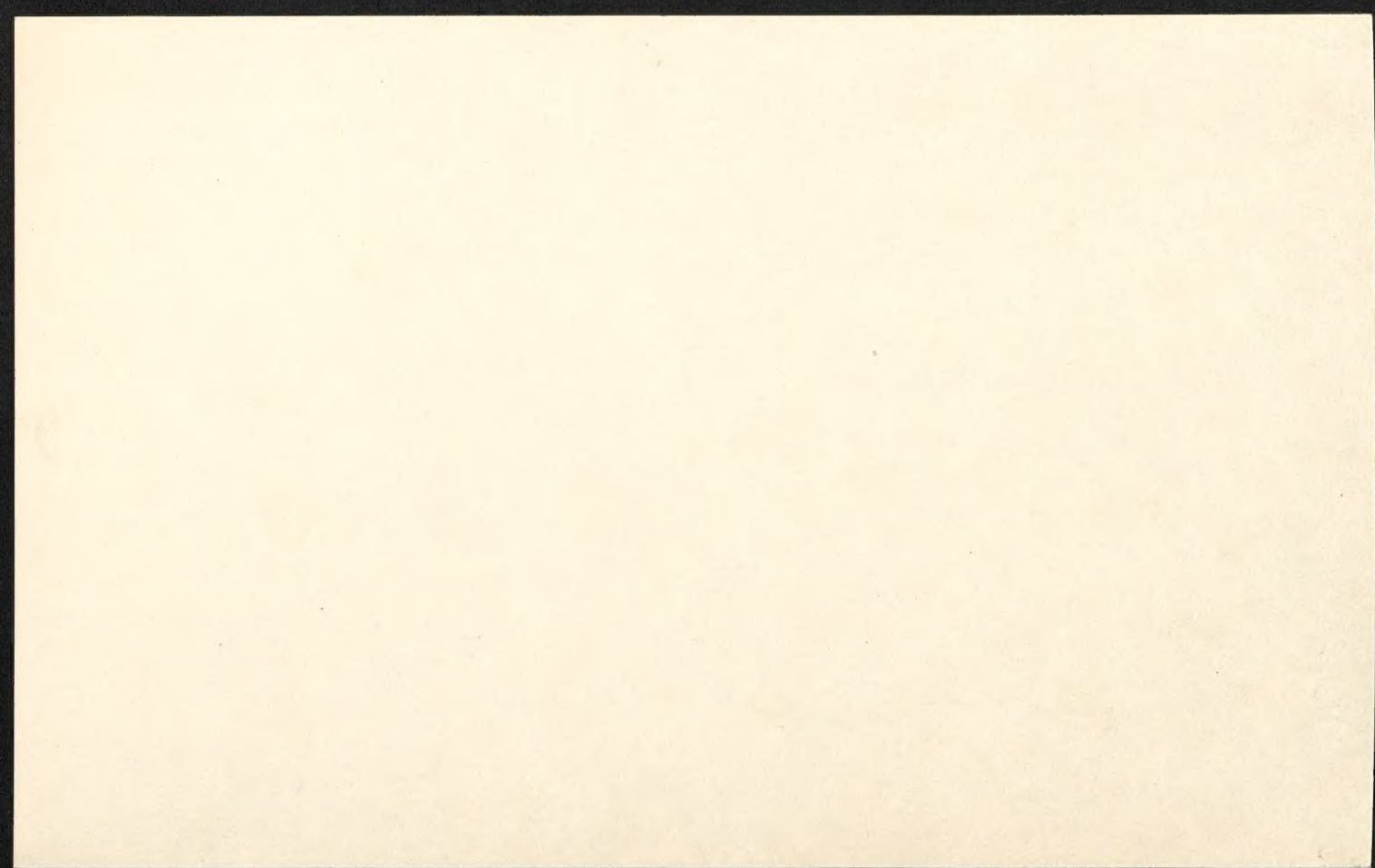
2 collector Becarri

Thomas 1921 p. 429

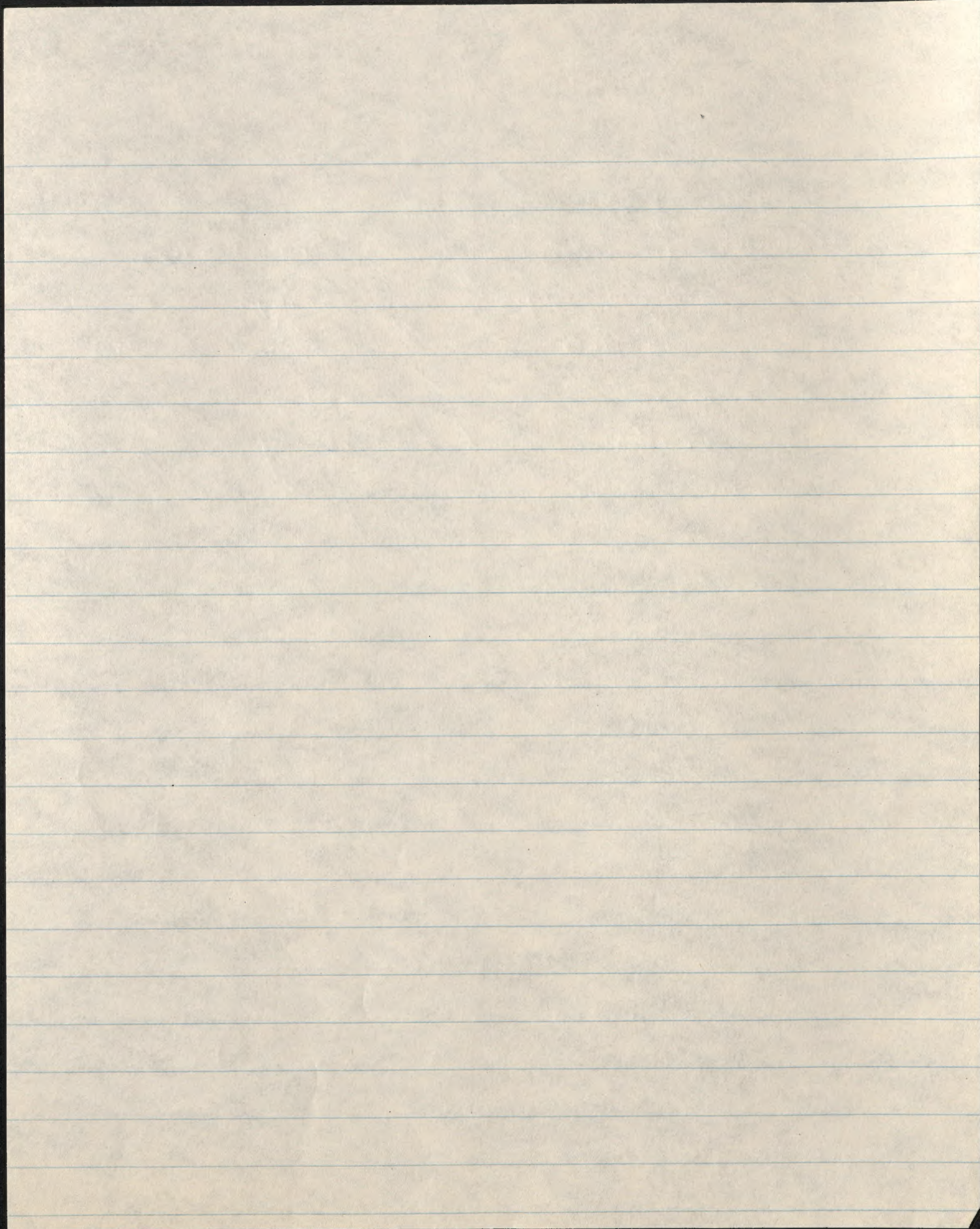
6. nauticus (Type)

Dobo, Aru Isl.

1 collected by W. Stalker

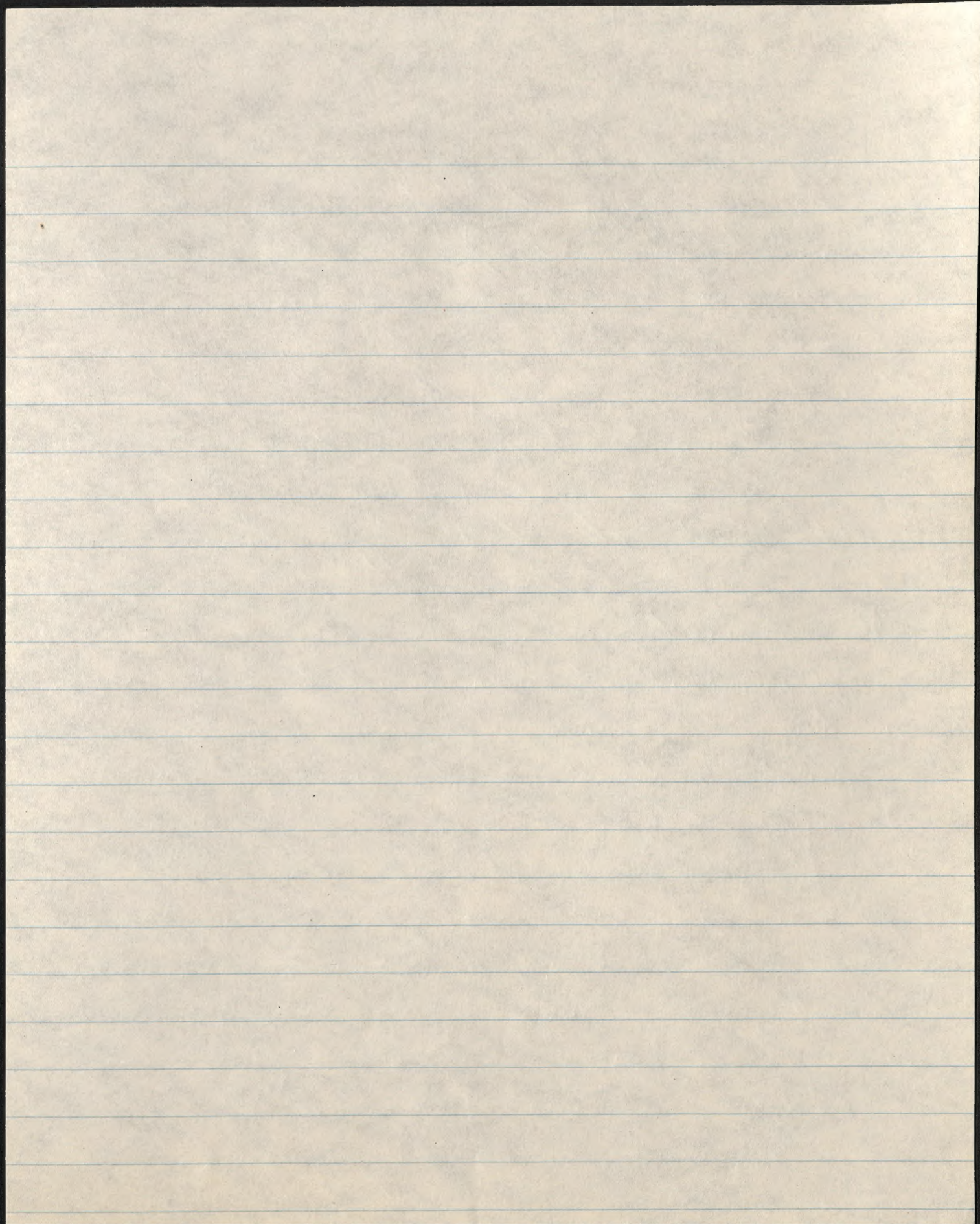


Hydromys habbema - 28 individuals
were taken from the Lake Habbema camp.
The habitat of this small Hydromys was
the grassy borders of the lake and its
outlet stream. Here the grass grew from
18 to 30 inches high covering the shore
in a narrow strip from two to six feet
wide between the elevated lip and the forest
edge or marsh. Through the fringe of
rather dense coarse grass there were numerous
runways about 2 inches in width extending
in all directions. It was in these paths
that most of these animals were taken.
There were numerous well worn paths which
led out of the grass over the six to eighteen
inch high lip of the lake shore. During the
drier season when the lake was down track
could be seen along the small sandy beach
and it was here that several individuals
were trapped. They apparently frequent
the waters edge picking up the insects
which blow in. It is quite possible, too,

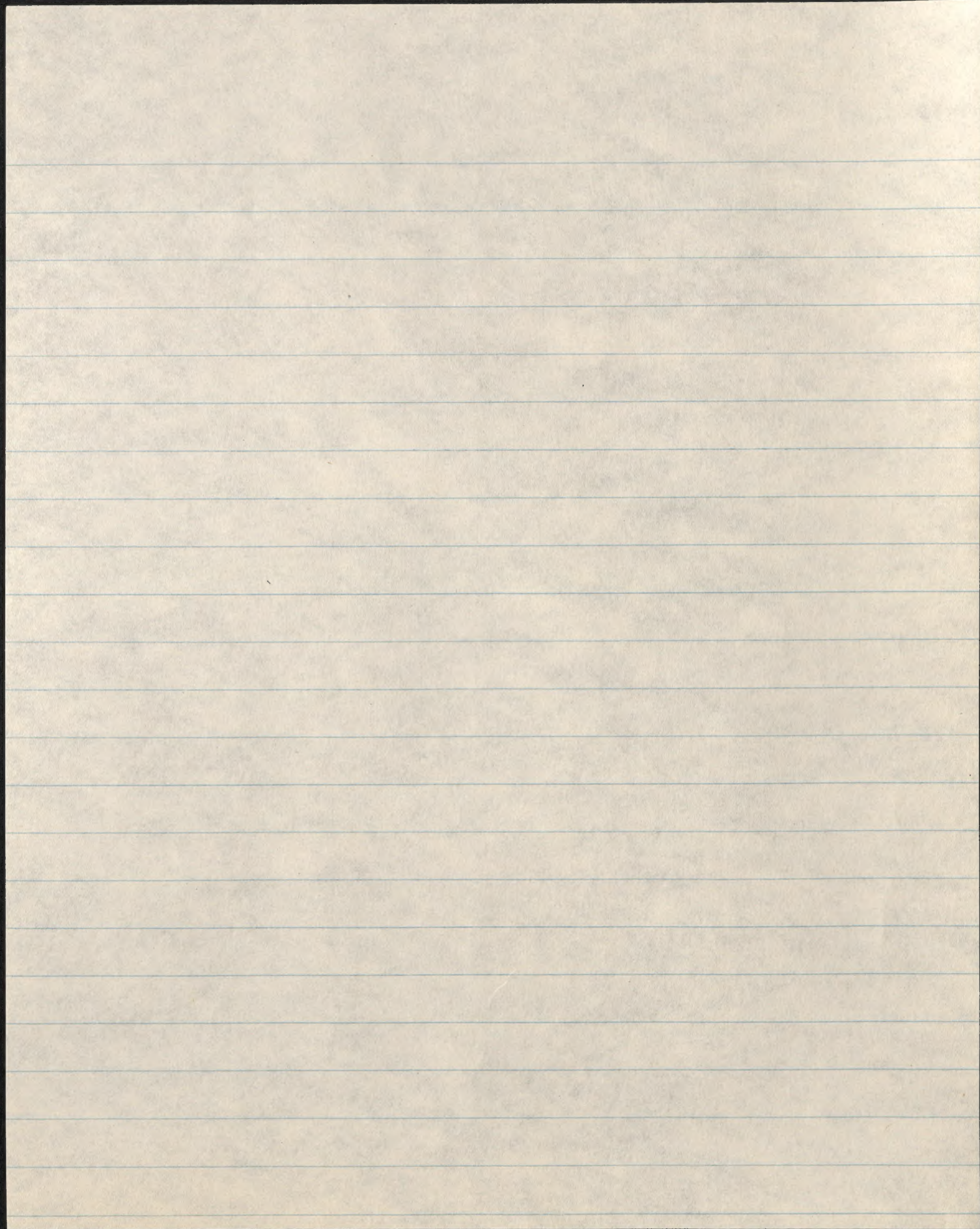


that they swam in the lake among the sedges which grew out of the shallower peaty lake margin. On one occasion only was an individual taken as far away from the water edge as 10 ft. This individual was caught in a trap placed at the entrance of a hole in a moss clump which had formed about the base of a bush some two yards away from the lake-grass fringe. Three stomachs were examined one containing a small amount of green vegetable matter, another a mixture of plant and animal matter, and the third contained curdled milk (It was apparently still suckling).

Four individuals were taken at the 3600 ft camp. One individual was taken in a trap set in a small runway through the tall grass clumps above an underground stream. The ground here was quite moist but there was no visible surface water could be heard flowing over the rocks a short distance below the sod. The other

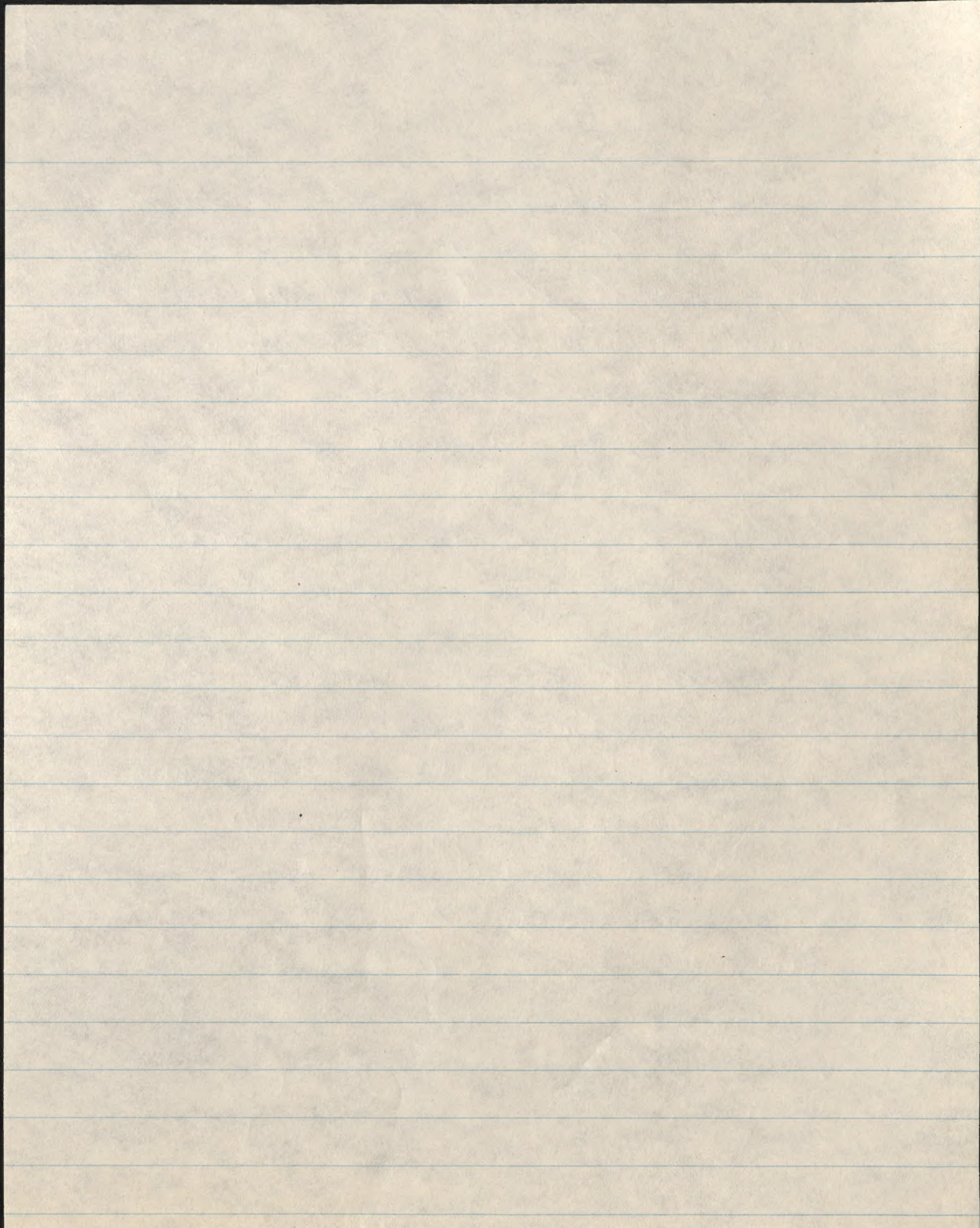


these individuals were taken by a collector
who said they were trapped in small runways
along the grassy stream side.



Hydromys asper - Three individuals were taken at the 2800 m camp. Habitat was the mossy black forest with moss covered undergrowth and litter. The traps in which they were caught were in each case set in rather ill defined runways between fifty and sixty feet from the stream side. The stomachs were empty. The pieces were rather large one and one quarter inch long by one half inch thick containing what appeared to be the remains of insects. A female taken October 24 had no embryos nor were the mammary glands functional.

At the Belu River camp one individual was trapped and ten others were brought in by natives. The habitat of the trapped animal was much the same as that described from the camp above.

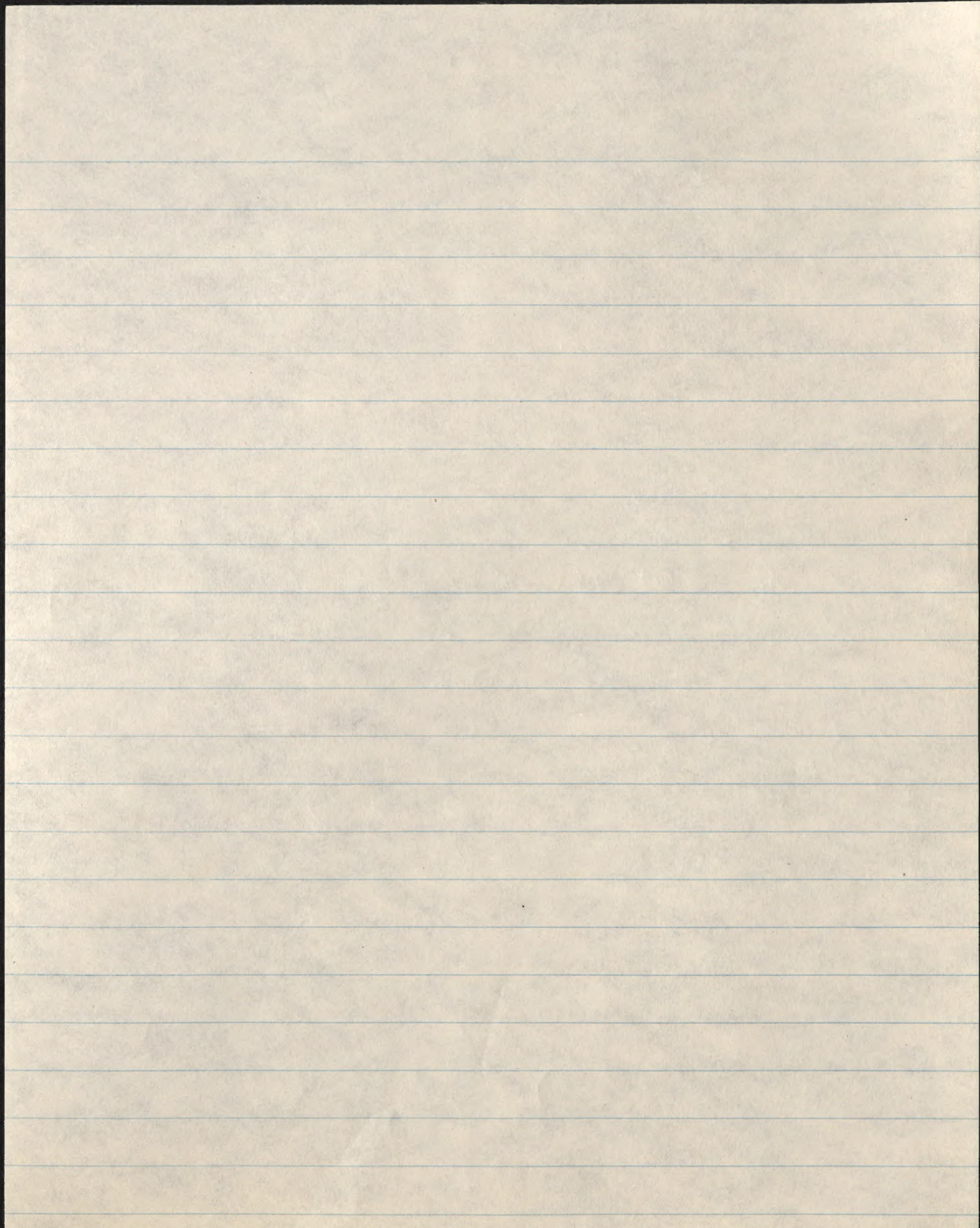


Here known the trap was ~~was~~ 300 yds up a very steep hill slope from the river, indicating that these animals do wander away from the riparian conditions.

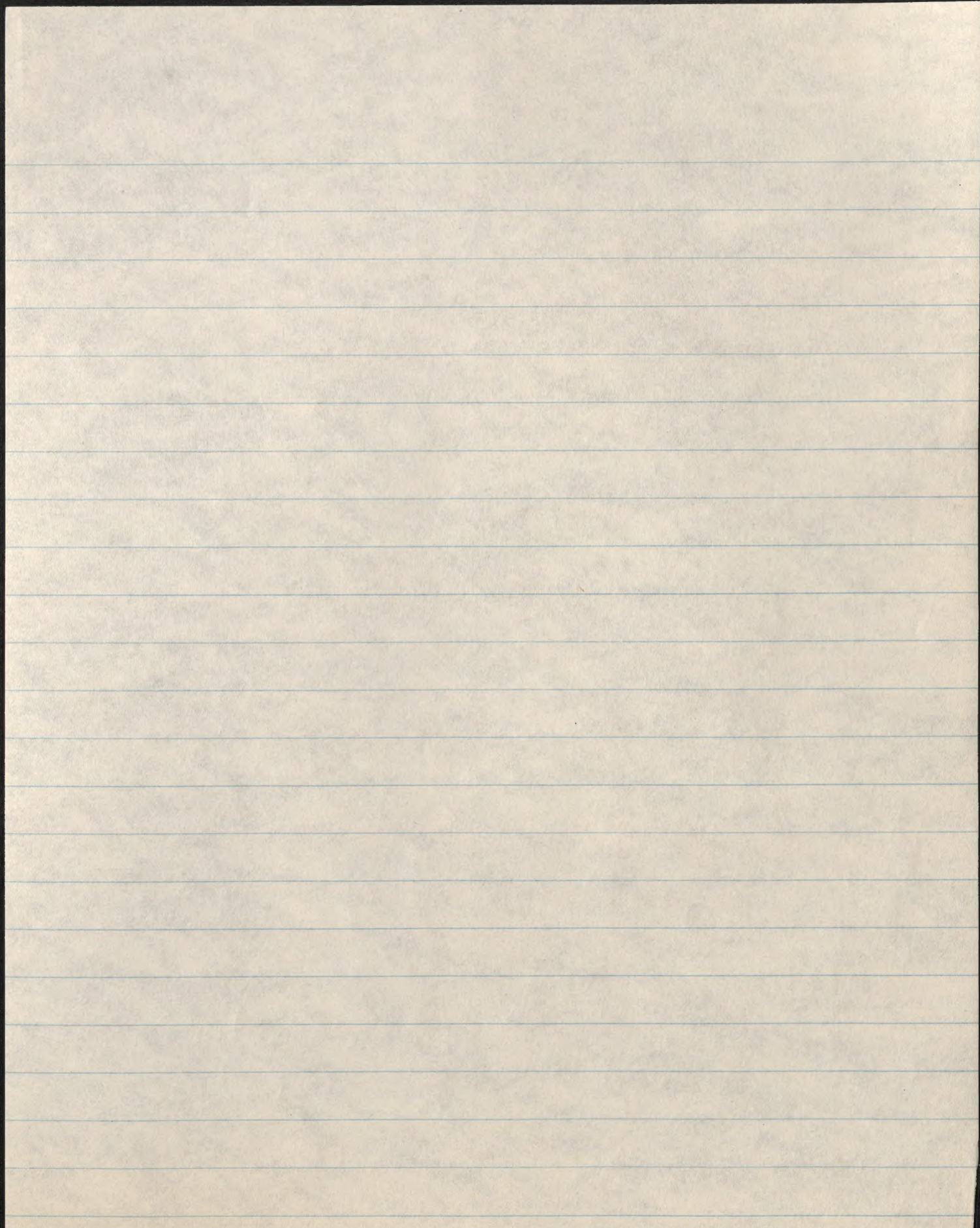
One individual was trapped at the 1200 m camp. It was brought in by collectors from the mossy forest.

Another specimen was taken by a collector from 10 Km SW Burnland Camp at 1500 m. ~~The information on habitat was~~

It is my opinion that these animals inhabit the mossy forest ~~throughout the~~ area. Though they are never ~~found~~ common they are more frequently found near streams in the area as it has caught along all I found trails though the latter.

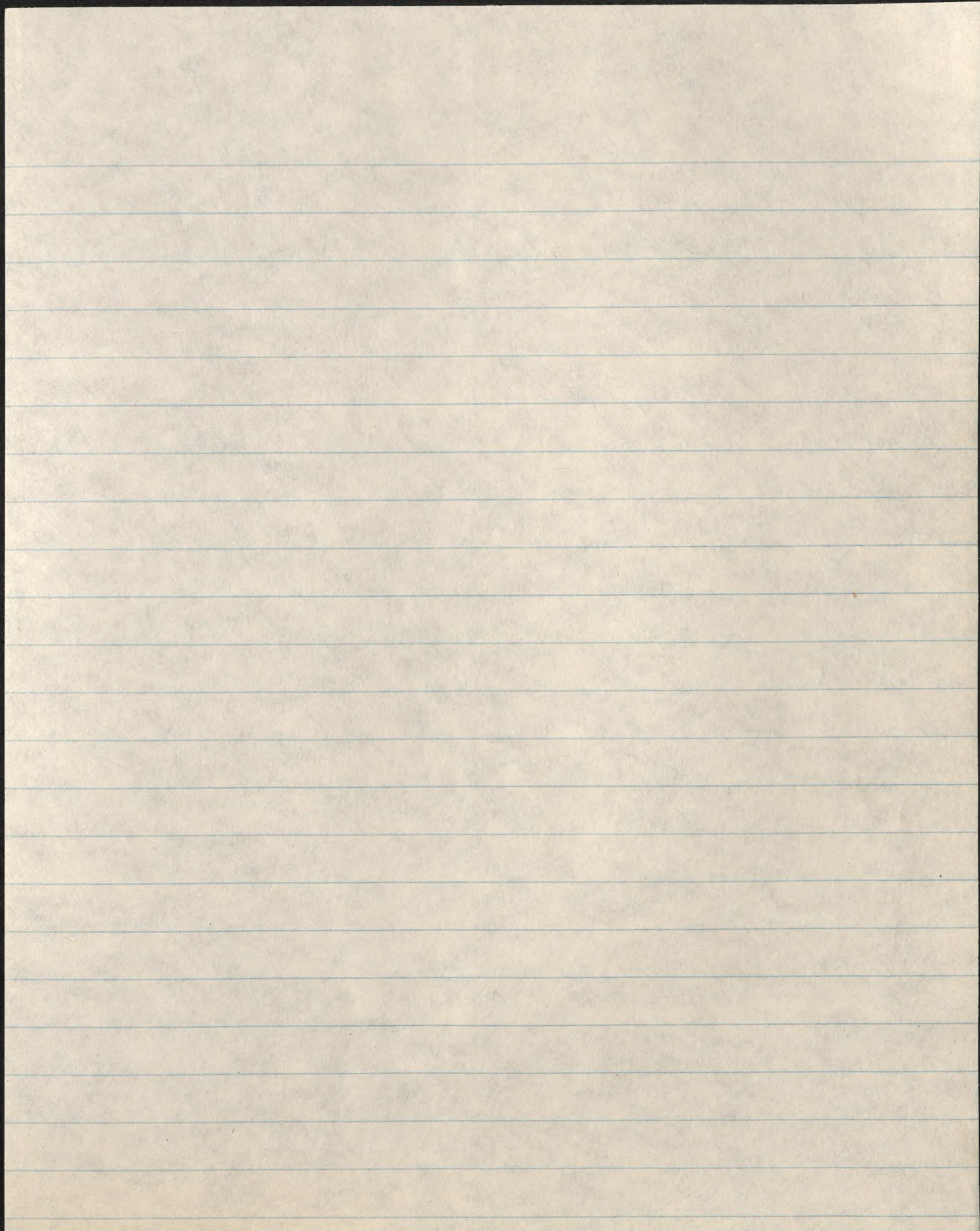


Hydromys chrysogaster - Two individuals were taken from the 850 m camp. These were trapped or snared in obscure runways near a stream. The vegetation of the stream side differed from the adjoining mossy forest in that there was a rather heavy second stage and clonal-type of growth, ^{with} much lith, some of which had been washed in by the over flowing stream. A list of the stomach ^{with} contents are as follows. One stomach contained remains of frogs and insects; another contained insect remains; another one frog and other material resembling that of finely masticated fruit; another material resembling blood; and the other was empty. The remains of a crab now one catch would indicate that probably these two were eaten. The testes of the ♂ were enlarged protruding in a distended scrotum at the base of the tail. One ♀ taken April third contained two large embryos 50 mm long. Her four mammae (all posterior) were now lactating.



The upper lip as compared with that of Hesper is less bulging and contains fewer vibrissae.

From Burnham Camp the specimens were taken during the month of April and May. At this time the Idumbung River was in flood and only small strips of land were above water. It was on these islands that the traps which caught the mouse were set. Here the vegetation was that typical of the rain forest with its large trees forming a rather dense canopy. The undergrowth was sparse and the little for the most part was in an advanced state of decay.



Hydromys habbema. - Twenty-eight individuals were taken from the Lake Habbema camp. The habitat of this small Hydromys was the grassy borders of the lake and its outlet stream. Here the grass grew from 18 to 30 inches high, covering the shore in a narrow strip from 2 to 6 feet wide, between the elevated lip and the forest edge or marsh. Through this fringe of rather dense, coarse grass there were numerous runways about 2 inches in width extending in all directions. It was in these paths that most of these animals were taken. There were numerous well worn paths which led out of the grass over the six to 18 inch high lip of the lake shore. During the dry season, when the lake was down, tracks could be seen along the small sandy beach, and it was here that several individuals were trapped. They apparently frequent the water's edge, picking up insects which blew in. It is quite possible, too, that they swam in the lake among the sedges which grew out of the shallower, peaty lake margin. One one occasion only was an individual taken as far away from the water edge as 11 feet. This individual was caught in a trap placed at the entrance of a hole in a moss clump which had formed about the base of a bush some 2 yards away from the lake grass fringe. Three stomachs were

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examined; one contained a small amount of green vegetable matter, another a mixture of plant and animal matter, and the third curdled milk (it was apparently still suckling).

Four individuals were taken at the 3600 m. camp. One individual was taken in a trap set in a small runway through the tall grass clumps above an underground stream. The ground here was quite moist, but there was no visible surface water. It could be heard flowing over the rocks a short distance below the sod. The other three individuals were taken by a collector who said they were trapped in small runways along the grassy stream side.

examined; and on water a small amount of green vegetable matter.

Another small amount of green vegetable matter was also examined.

It is also reported that the water is very pure.

For analysis the water was taken from the spring at the hotel.

It was found that the water was very pure and contained no impurities.

It was also found that the water was very pure and contained no impurities.

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Hydromys asper. - Three individuals were taken at the 2800 m. camp. Habitat was the mossy beech forest with moss covered undergrowth and litter. The traps in which they were caught were in each case set in rather ill defined runways between fifty and sixty feet from the stream side. The stomachs were empty. The feces were rather large, $1\frac{1}{4}$ inches ~~xxx~~ long by $\frac{1}{2}$ inch ~~xxxx~~ thick, containing what appeared to be the remains of insects. A female taken October 24 had no embryo nor were the mammary glands functional.

At the Bele River camp one individual was trapped and ten others were brought in by natives. The habitat was the same as that described for the camp above. Here, however, the trap was 300 yds. up a very steep hill slope from the river, indicating that these animals do wander away from the riparian conditions.

One individual was trapped at the 1200 m. camp. It was brought in by a collector from the mossy forest.

Another specimen was taken by a collector from 10 km. S.W. of Bernhard Camp at 1500 m.

It is my opinion that these animals inhabit the mossy forest area.

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Though never they are more frequently found near streams,
and are to be caught along ill defined trails through the litter.

they are more important than ever.

There is never

and there is no doubt about it.

Hydromys chrysogaster. - Five individuals were taken from the 850 m. camp. These were trapped and speared in obscure runways near a stream. The vegetation of the stream side differed from the adjoining mossy forest in that there was a rather heavy second stage and a chaparral-type of growth with much litter, some of which had been washed in by the overflowing stream. A list of the stomachs with contents is as follows: one stomach contained remains of frogs and insects; another insect remains; another and other material resembling that of finely masticated fruit; another material resembling blood; and the other was empty. The remains of a crab near our catch would indicate that probably these, too, were eaten. The testes of the male were enlarged, protruding in a distended scrotum at the base of the tail. One ♀ taken ~~in~~ April third contained two large embryos 50 mm. long. Her 4 mammae (all posterior) were non-lactating. The upper lip as compared with that of H. asper is less bulging and contains four vibrissae.

From Bernhard Camp three specimens were taken during the month of April and May. At this time the Idenburg River was in flood and only small strips of land were above water. It was on these islands that

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that the traps which caught these animals were set. Here the vegetation was that typical of the rain forest with its large trees forming a rather dense canopy. The undergrowth was sparse and the litter for the most part was in an advanced state of decay.

that the specific treatment methods were not used in the

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Hydromys

Aug. 4 Lake Habbema, Netherlands New Guinea. 3225 m.

Caught 1 juvenile in the 392 traps. This individual was taken in one of the mouse traps set in the grassy edge of the lake shore. The trap was set in ~~the~~ a rather large runway through the coarse grass within 2 ft of the lake edge.

Aug 5 Lake Habbema, Netherlands New Guinea. 3225 m.

1 individual in 392 traps. This animal appears to be a sub-adult ♀. There were no embryos. The trap in which it was caught was set in the thick grass that borders the western bay. This grass is 2 to 3 ft in height and covers a land varying in width from 2 to 5 ft. It is very dense. Though it is numerous, paths going in every direction through this grass, many of them opening out to the water's edge. The stomach of the least contained a small amount of green vegetable matter.

Aug 12 Lake Habbema, Netherlands New Guinea. 3225 m.

1 individual in 375 traps. This animal was taken in a rat trap set along the heavy grassy fringe of the lake shore. About this portion of the lake (NW shoreline) there is a heavier fringe of grass varying in thickness from 2 to 6 ft. The grass is and often supplemented with reeds in the lake or swampy border of the same. The grass varies in height from 18 to 30 inches and is of a coarse dense character with numerous trails along the stem which usually form a maze of runways rather than a distinct path. Beyond the grassy fringe is a lower less dense grass which may be in small clumps or ~~is~~ a low mat like ~~area~~ grass. This extends some 50 - 500 yd back to a forested

hill slope. The trap in which the least was caught was in a rather narrow ^(2 ft.) fringe of this heavier grass. The trap was set ^{at} ~~within~~ ^{at} ~~off~~ in from the lake edge (~~at~~ ¹ ft. above lake level) in a small runway through the fringe. The runway was about 2 inches in diameter and at the point where the trap was set it led on west to the water edge. Stomach (examined) appeared to have a mixture of plant and animal matter in it.

Aug 14 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 375 traps. Both were taken along the lake shore (one on the ^{north} west side of the bay, the other on south west side of lake). One was taken on a small peaty mass at the lower edge of the 1st bank of the lake. This peaty mass protruded slightly above the water level and connected with the bank itself. In the water about this region there was a thin growth of rushes extending from the bank 10 ft into the lake. On the bank above the water edge was low grass ~~at~~ with here and there scattered clumps of taller grass. The other specimen (the other of the two) was taken in much the same type of scrubby matted as the one taken on Aug. 12. (see notes). There was a bank extending above the water level some 1 1/2 or 2 ft. on which was growing the ^{heavy} border grass of the lake. In the spot where the trap was set this border was about 3 ft. wide. Along from the bank was a low matted grass with ^{small} scattered clumps of higher (2 ft.) grass. The trap was set in a ~~runway~~ ^{runway} through the heavy border grass. In this vicinity there are frequent ^{trail} entrances ~~entrances~~ ^{entrances} ~~entrances~~ ^{entrances} to the water which appear to be used frequently. It was when such an entrance joined a ~~per~~ main trail that the animal was caught.

Aug 16 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 375 traps. This individual was taken in a trap set 5 ft from the water edge in one of the maze of trails through the heavy grass thickets bordering the lake. Along the water edge the grass gave way to the thin growth of rushes.

Hydromys

Aug. 18 Lake Habbema, Netherlands New Guinea 3225m.

6 in 375 traps. These specimens according to the collector who brought them in were taken in some 40 traps set along the edge of the river outlet of the lake. There is a heavy growth of sedge in the water and a heavy tall grass along the stream bank. The traps were set in the runways through the grass - at the outer border of the sedge thickets.

Aug. 19 Lake Habbema, Netherlands New Guinea 3225m.

1 in 375 traps. This specimen was taken in the same line as the other specimens taken yesterday. The trap was set in a runway at the region where the reeds and grass meet near the high water line. This little (?) path ran parallel the stream and - if following the edge, that is the path had a defined direction. According to the boy who showed me where some of the specimens were taken yesterday they are caught in traps 1 to 2 ft. away from the water edge in tracks through the grass paralleling the river.

Aug. 20 Lake Habbema, Netherlands New Guinea 3225m.

2 in 345 traps. They were both taken in small runways along the edge of the outlet of the lake. Along this sluggish stream there is a border of reeds and on the higher ground above grass. These animals were taken in a runway along the transition from grass to sedge & reeds. The trail was distinct and directional and probably used by Stenomys as well as the student.

Aug. 21 Lake Habbema, Netherlands New Guinea 3225m.

2 in 387 traps. The ♀ which took from the traps was 10 ft from the water edge, the

distance between being low brush with a ground cover of moss which is chopped about the base of the bushes. The animal was caught in a trap placed in a hole in one of the clumps.

Aug 22 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 382 traps. Both individuals were taken along the lake shore in runway through the heavy border grass near the ~~shore~~ ^{lake} edge. The traps were set in trails ^{trails in} near the transition between the grass and the sedge.

Aug 23 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. According to the collector this animal was taken along the lake shore within 2 ft. of the water edge. This juvenile from the looks of the stomach was still suckling its mother.

Aug 24 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 386 traps. Both were brought in by collectors who took them from traps set along the north west lake shore and outlet stream.

Aug 25 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 386 traps. Brought in by collector. Probably taken in traps set along north west lake shore and along upper portion of the outlet stream.

Aug 27 Lake Habbema, Netherlands New Guinea, 3225 m.
3 in 384 traps. Brought in by collector.

Aug 28 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. Brought in by collector. Same conditions as stated Aug 25.

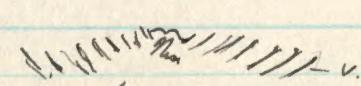
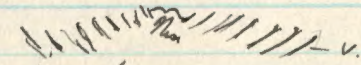
Aug 29 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. Brought in by collector.

Hydromys talboti

Sept 8 2 km NE Wilhelmsburg, Netherlands New Guinea; 3800m

(4) 1 in 187 traps. This individual was taken in a trap set in a small runway through the grassy slope above the underground hillside stream. The conditions here were quite moist but there was no visible surface water although water could be heard flowing over rocks at a short distance below the surface of the soil.

Oct 24 9 km NE Lake Habbema, Netherlands New Guinea 2800m.

1 in 216 traps. Taken in runway through the mossy undergrowth of the open mossy forest of the upper stream bank. The trap was set a distance of some 50 ft from the water edge. They are a few things of interest about the animal which should be noted here. The vibrissae are set at an angle to form almost a straight line even with the nose tip of the nose. This sketch.  The dung is large $\frac{1}{4}$ inch \times $\frac{1}{2}$ inch.  a large oval mass of what appeared to be insect remains. There were no emb. seen even though mammary glands functional.

Oct 27 9 km NE Lake Habbema, Netherlands New Guinea 2810-2700m.

2 in 245 traps. The adult ♂ was brought in by collectors who said it was taken in a runway at the edge of a bog in the second growth salome forest some 50 ft from the stream. The sub adult ♂ was taken in an obscure runway through the litter in the brushy undergrowth of the mossy forest some 60 ft from water edge. The stomachs of both specimens were empty.

Nov 11 Belu R. 18 km NE Lake Habbema, Netherlands New Guinea 2200m.
1 brought in by natives.

Nov 19 Belu R. 18 km NE Lake Habbema Netherlands New Guinea 2200m
1 brought in by natives.

1938
1939

Nov 21 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 25 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 26 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
3 brought in by natives

Nov 27 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 29 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives

Dec 2 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 in 213 rat traps. - Brought in by
Peperson and so I know nothing of the precise
habitat. The general area was that of
forest with relatively thick undergrowth of
bush and a moist leaf forest floor. It
is a distance of some 300 yds ^{down} a very steep
slope to the river.

Dec 3 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Hydromys asper
Feb 18 6 km SW Bernhard Camp Humberg R. Netherlands New Guinea. 1200 m.
1 in 17 steel traps. Brought in by ~~natives~~ collectors.
Stomach contained mud etc presumably consumed while in traps

Hydromys chrysogaster
Mar. 8 4 km SW Bernhard Camp Humberg R. Netherlands New Guinea 850 m.
1 in 216 rat traps. Taken in runway through the
undergrowth of the secondary forest ~~on~~ ^{at} the upper
edge of a small stream. Stomach contained material
resembling blood.

Mar. 24 1 in 812 snare. Brought in by collector.
Stomach contained remains of 1 frog and some
other material resembling that of finely masticated fruit.
Testes enlarged. Habitat flood plain.

Hydromys hyugaster

Apr. 2 4 Km. SW Bernhard Camp Shimbung R. Netherlands New Guinea 850 m.

1 in 208 rat traps. Taken in traps set on a clay ~~large~~ ^{3.5 x 4 ft} ~~thump~~ ^{thump} (2 ft high) at the edge of a stream bed. There was a heavy canopy ^{of thick palm vegetation} ~~consistently~~ ^{covering} the stream. Although ~~as~~ there was no definite runway over the thump the fire was when covered it ~~was~~ ^{had} the appearance of being trampled. There were also the ~~remains~~ ^{remains} of a crab in the water nearby. Stomach contained remains of insects. Testes enlarged.

Apr. 3

1 in ~~205~~ 205 rat traps. Brought in by collector. Taken in trap line bordering the river along edge of flood plain. 2 large emb. (see Alcock's). 4 persistent non-lactating mammary glands. Stomach contains remains of frogs and insects. The upper lobe of the heart as with the other taken in this vicinity has a lobe which protrudes but not to the great ~~as~~ degree as those taken ~~as~~ at the Del. R. and above.

Apr. 6

1 in 1075 snare. Brought in by collector. Stomach was empty. Testes enlarged.

Apr. 27 Bernhard Camp Shimbung R. Netherlands New Guinea 500 m.

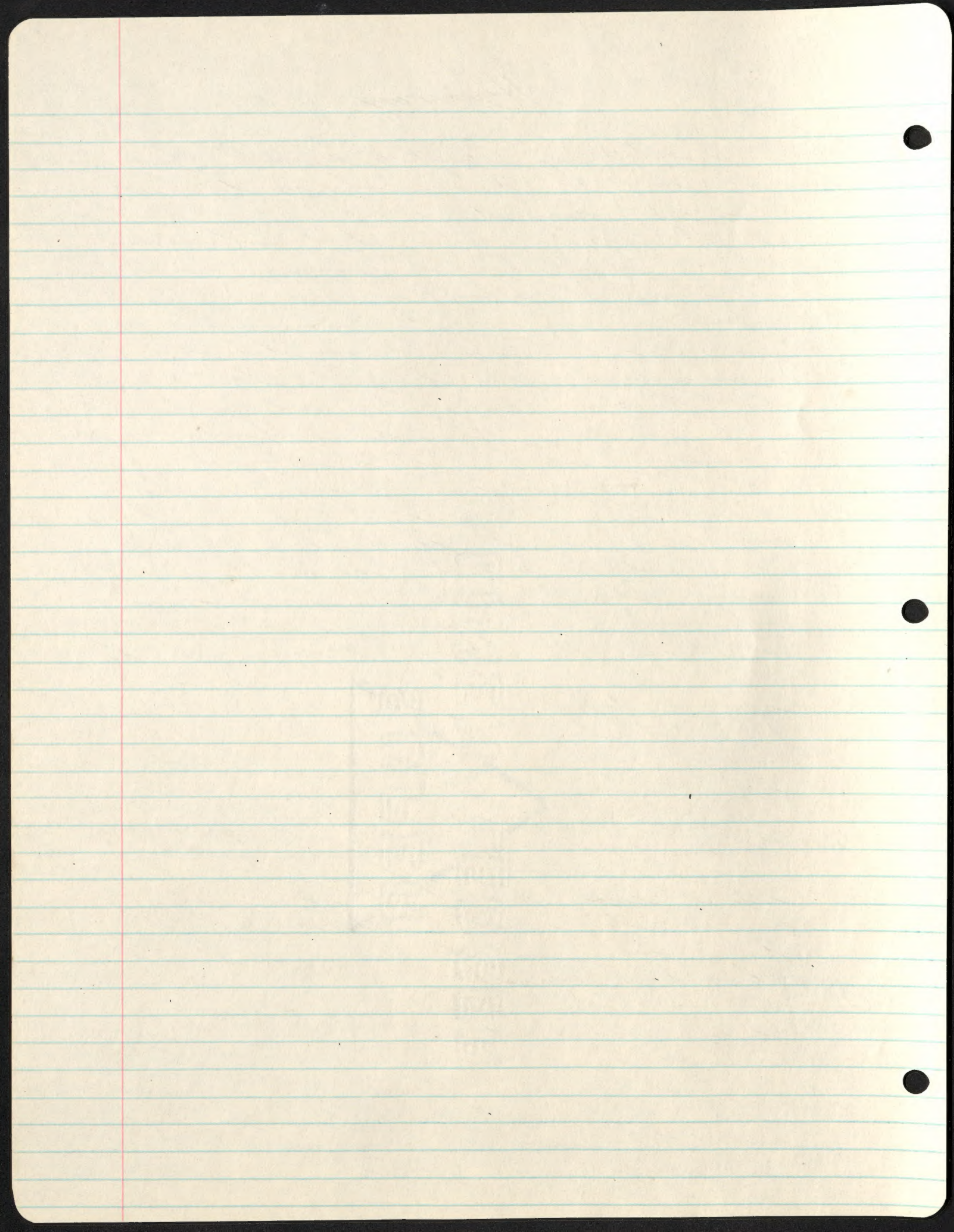
1 in 253 rat traps. Taken in forest at edge of ~~legum.~~ ^{legum.} Here there is only a small strip of land which is not inundated but will be so with a rise of another 20 ^{to 40} ~~ft~~ ^{cm} of water. The ground is very moist.

Apr. 30

1 in 799 snare. Taken on upper flood plain. The region is moist and near water due to flooded conditions of the area.

May 7

1 in 1055 snare. Brought in by collector. Taken on the east side of the river on forested banks which remains 1-2 ft above the present flood. Alcock's



Wm B. Richardson
1938
1939

Hyomys

Oct 29 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.

1 in 29 stub traps. Brought in by collectors who said it was caught in traps set on small log crossing the stream. The testes were internal (within body cavity) and not over an inch in length $\times \frac{3}{4}$.

Nov 1 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.

1 brought in by natives. This individual was probably taken at a lower altitude 2300 m. \pm near the native settlements.

Nov 14 9 km NE Lake R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.

1 brought in by natives.

Nov 16 Lake R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.

~~1 brought in by natives.~~ 1 in 29 stub traps. Taken according to collecting log in stub traps set in runway through forest.

Nov 20: Today I saw the set in which the deer mentioned last was taken. It was set in a runway beneath an overhanging boulder in the primary forest. Heavy growth of timber and an undergrowth of rather open brush and moderate amount of ^{many} rocks and litter.

Nov 29 Lake R. 18 km NE Lake Habbema Netherlands New Guinea 2200 m.

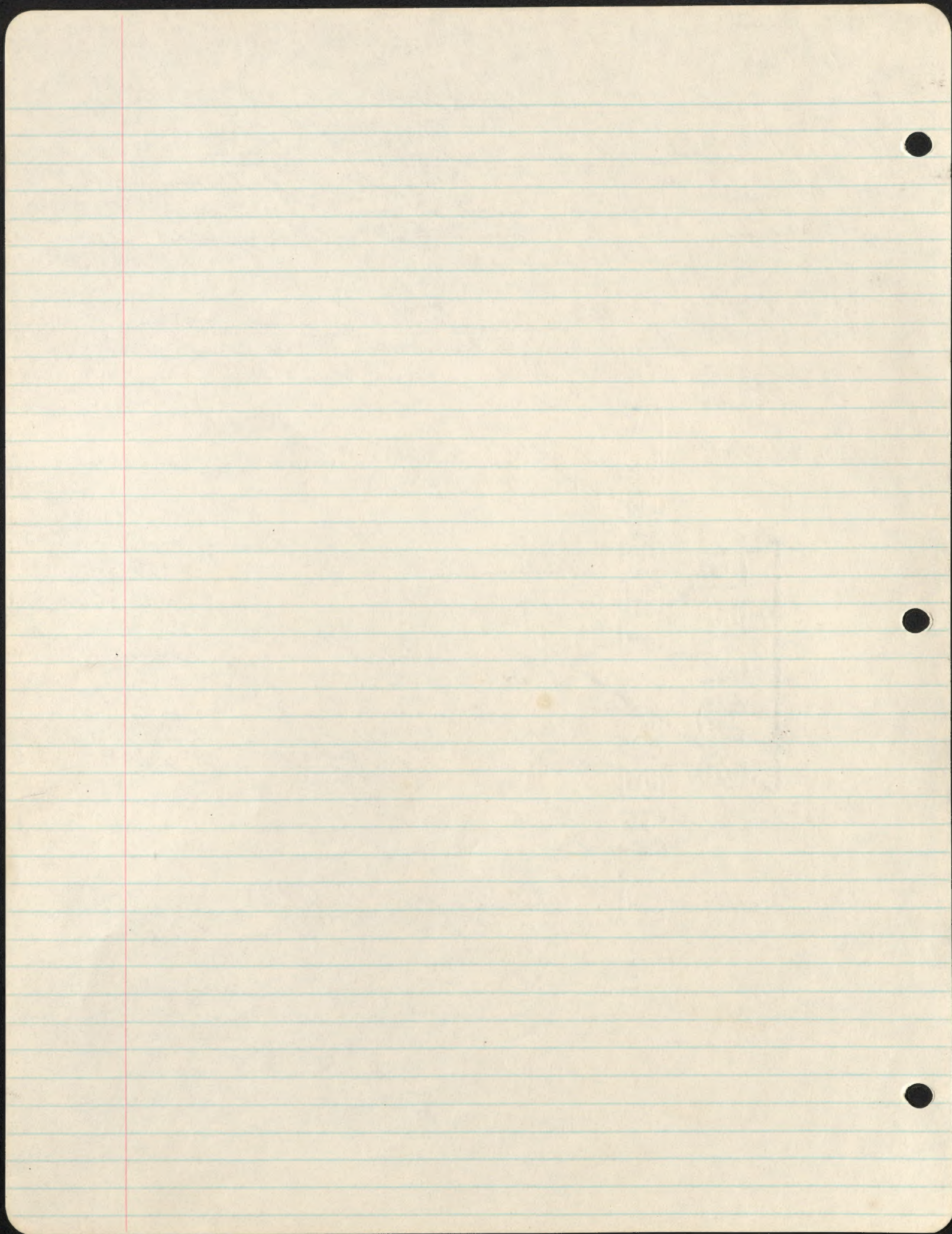
1 brought in by natives.

Apr. 14 Beendard Camp Irian Jaya N, Netherlands New Guinea 75 m.

1 in 27 stub traps. Brought in by ^{Dyak} collectors.

Taken on ~~ridge~~ ^{edge} of lower slopes of hills above Irian Jaya plain. Stomach contained remains of fruit. Animal very fat. Testes enlarged.

T/pc
7847
Zenomys
Guba



Wm D. Richardson
1938
1939

Lorentzimus

Oct 15 9 km NE Lake Habbema, Netherlands New Guinea 2860 m.

1 in 431 traps. Brought in by collectors.
Probably taken in small runway through brush on edge
of the mossy forest floor.

Oct 22 9 km NE Lake Habbema, Netherlands New Guinea 2860 m.

1 in 418 traps. Specimen taken in the
mossy forest along the ridge where there was little
undergrowth. The forest floor being covered with
moss and leaves. The leaves arching in the direction
in the moss making a more or less natural
runway. It was in such a runway that the beast was
taken. There was no food in the stomach.
The testes were enlarged indicating maturity although
much smaller than the ♀ taken on Oct. 15.

Oct 28 9 km NE Lake Habbema, Netherlands New Guinea 2760 m.

2 in 413 traps. Taken by collectors.

Nov 14 Belu R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.

1 in 308 traps. According to collector
who brought it in it was taken in small runway
near a garden clearing.

Nov 15 Belu R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.

1 in 414 traps. From trap set in forest. Taken
by collector.
Nov 20. Today saw the trap in which this animal was caught.
It was in a small runway at the edge of a bush
in the primary forest. There was an open undergrowth
of brush and some litter.

Nov 24 Belu R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.

1 brought in by natives.

Jan. 12 15 km SW Berendal Camp Idenburg R., Netherlands New Guinea 1800 m.


1 in 425 traps. Individual taken in trap set
on floor of mossy forest. The region was that had scattered
large forest trees, moderately thick second story growth and

scattered underground. The forest floor, on a side hill slope, had a quantity of litter of logs, rocks, etc. There were however small open spaces ^{with a change} with moss. It was at the edge of such a space beneath a small scraggly shrub that the trap was set in which this beast was caught. The traps were enlarged measuring some 15 m.m. The stomach contained only a small quantity of food which appeared to be that of fruit or tubercular material.

Jan 23 15 km S.W. Burndad Camp Idenburg R. Netherlands New Guinea 1800m

1 in 425 traps. Taken in ^{open} mossy running about a large tree. The individual was caught by at the ^{base of the} tree in a moss trap and apparently did not injure it in any way seriously. The following are notes made while watching the the beast while held captive in a wire tin with a cloth of excelsior on the bottom for cover. It is apparently a nervously active animal scampering about the cage and continually quivering the antennae and ears. It apparently desires a dark retreat and when one is found beneath the excelsior is quite content to remain there in a huddled up position for long periods of time. The ears are carried vertically with the opening in a somewhat forward condition. The ears while the animal is active, are continually quivering that is ^a shifting the opening in different directions to different lateral positions as if to catch all sounds. Preening of the coat was frequent. The lower incisors were used to comb out the fur about the genitalia by drawing the head between the fore feet, pushing the incisors into the fur and ^{then} lifting them outward. The hind feet was also used for scratching the area back of the head (nape of the neck) in a position similar to that of a dog. While running about the cage both front & hind feet are used and it is not a jumping gait with the fore feet held against the body. Its mode of progress is not unlike that of typical rather except it is not so quick due apparently to

Leontideus

the larger hind feet which are turned around to an angle with the body  ^{Body} + angle of foot to body. Even in a resting position this angle is retained to a lesser degree. Frequently reaches its face with its front feet. Accomplishes the desired thing rapidly. It pushes its way through the excelsior rather than spend a time looking for an opening. Seldom crawls to the top of the excelsior generally remains at or near the bottom. Frequently attempts to dig in one of the corners of the can in an attempt to escape. Just completed a 1/2 minute attempt at jumping out of the can. Then succeeded in jumping over 6 inches in height and generally about 4 inches. The jumps were repeated frequently.

A branch of a small tree cut and the many forked sticks placed in the cage. This beast seems perfectly at home climbing about the sticks or on the wire mesh at the top of the cage. Both the front and hind feet are used in grasping the small limbs, that is they are opposable to each other. The tail is not used except possibly as a balancing organ. It is apparently used with a prehensile organ or as one for support. The animal proceeded down the limb hand first with apparently no difficulty. Have seen it on several occasions swing to a limb below by releasing its grip on the limb, eyes with one hind foot and rather falling head first downward and catching the limb with the front feet. As soon as front feet are secure the hold with the hind feet to its previous perch is relinquished.

Mar. 1 10 km. SW Bernard Camp, Shimbung R. Netherlands New Guinea 1500 m.

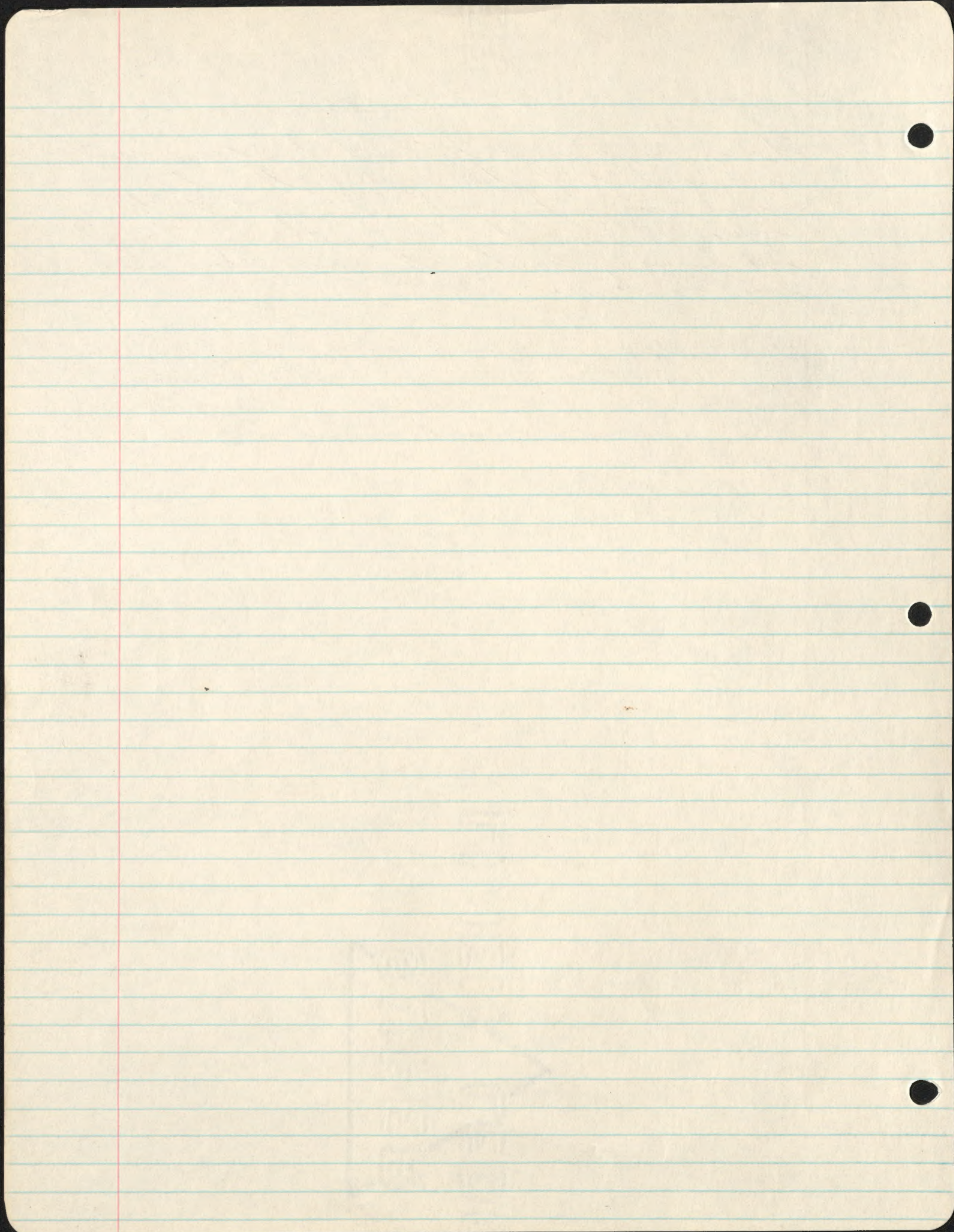
Following are notes on living caged individual. Activities when first observed consisted of a jumping and running type of locomotion about the bottom of

the cage. Now, this evening 8:00, this same animal is less active unless disturbed in some manner. It hunches up on top of the exclusion floor lying and moves its head or twitches its ears only slightly and occasionally. The ear when touched with a wire rapid reaction of a movement of the head and sometimes body to one side and then the ^{reaction to} examination with nose and vibrissae toward the point. Touching the vibrissae brings a rather sharp reaction to the examination of the wire. The tail when touched lightly is ignored when pursued the animal turns about very rapidly for the wire examination. Reaction to light. When least is settled in one corner of the cage and intensity of light is increased it apparently is negatively phototaxis, that is no reaction. However, when disturbed it seeks the darker portion of the cage in which it ~~seems~~ ^{seems} to settle down for its period of inactivity. Blow one's breath on the animal disturbs it slightly, sufficiently to make it turn its head and twitch its ears. Rubbing the fur with the end of the wire is only ~~slightly~~ ^{slightly} noticed at first but as the rubbing continues it seemingly disengages. Preening is carried on periodically. The front and hind feet as well as the teeth are employed. With a very rapid forward kicking - scratching motion ~~the~~ with the hind feet the shoulders ^{belly of the wire} and ^{any part of the back} are preened. The fore feet are used in preening the hair about the rump by a clawing motion. They are also used in working the face and in aiding the teeth in preening hair about genitalia and belly. The teeth, aside from that mentioned are employed in preening the area about the mid back. The preening can be stimulated by scratching the animal with the end of the wire. Hind feet also used in preening about subnasal and in front of eye. Teeth used on hips. During a period of activity ~~when~~ the animal was looking for a means

Lorentzimys

of escape. Moved several times about top of excelsion.
Spent most of the time crawling through
excelsion not infrequently coming to the
surface. It seems to push its way through
not digging or pushing the wood fibers aside
with the forepaws.

Apr. 2 4 Km. SW Bauwand Camp Denking R., Netherlands New Guinea 850 m.
1 in 128 mouse traps. Brought in by collector.
Taken in trap set on leafy fern below flood
plain vegetation. Stomach contained remains of
fruit.



Mallomys

Aug. 30 Lake Hallima, Netherlands New Guinea. 3225 m.

1 in 22 stub traps. The traps were set near the bottom of a grassy sink hole $1\frac{1}{4}$ kilometer NNE of camp. Near there are a series of some 10 ft sink holes ~~irregular~~ string out in a ~~not~~ east west direction. To the south of these holes is a patch of mossy forest with its bushy borders, to the north the swamp forest with open *Libocedrus* trees and a low ^{semi open} bushy undergrowth. The sink holes varied in width from 25 to 100 yd and from 50 to 400 ft deep. The vegetation of these funnel shaped depressions was solid grass, at the bottom to $\frac{1}{2}$ or more up the side walls a heavy bunch grass dominated. The vegetation up to the higher walls short grass and low bushes were present. The trap in which the best was caught was set with $\frac{1}{4}$ ft of the bottom where a rooted moss, fern, and grass covered limestone cliff formed a part of the ~~south~~ south wall of the hole. At the base of this cliff there were heavy bunch grass ~~and~~ clumps which completely hid a broad runway. Along the ~~side~~ ^{base} runways (about 4" in width) were ~~no~~ numerous though the bunch grass region forming a maze of runways rather ~~than~~ than a single directional one. At the bottoms of these sink holes were usually openings which appeared to be used as retreats by these animals. A mowing globe ($\frac{1}{2}$ formed, 2 ad) set wide apart. No indication of young suckling in ^{interference} in ~~the~~ ^{the} ~~runway~~ ^{runway}.

Sept 11. 2 km NE Wilhelmia-type, Netherlands New Guinea. 3560 m.

1 in 12 stub traps. The trap was set in a runway up the side of a mossy sink hole. The hole was about 7 ft deep with ^{irregular} mossy sides. At one side above the hole was a large

patch of sub alpine forest and to the other
open grass land. There were trails about the
forest as well as, though the grass showing
that some large animal did inhabit the
region. Near by were two Pigeon roost
trees (dead fella). The stomach of the beast
had a quantity of finely ground up plant
material. Bruce on examining it with a
hand lens believed it to be of herbivorous plants
rather than grass although some of the latter
may be present. The testes were
enlarged indicating ^{that} the animal ~~it~~ was adult.

Nov. 1 18 km N Lake Habbema, Netherlands New Guinea 2800m.

1 brought in by natives. This specimen came
in with Pigeons, and Pigeons. They were quite
possibly taken below, near the village of
the natives 2300 m. ±. The tail of this
beast was interesting in that it was
curved dorsally in much the same manner
as Pigeons but with a greater loop.

Nov. 5 18 km N Lake Habbema, Netherlands New Guinea 2800m.

1 brought in by natives, who according to
their signs brought it down from above.
They also had a sign which hand says
is a bird of timber line or higher. This would seem to
indicate that the beast, which is similar to
the Habbema sp., was taken at a much higher
altitude.

Nov. 8 Bele River 18 km N Lake Habbema, Netherlands New Guinea 2200m.

1 brought in by natives. I have neglected to
mention in the ³ previous ~~specimens~~ taken that the tail
curled dorsally from a half loop to a loop and a
half maximum.

Nov. 9 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.

1 brought in by natives.

Mallomys

Nov. 15 Beli R. 18 km N Loh Hobema, Netherlands New Guinea 2200m.
1 brought in by natives. Dorsally curved tail.

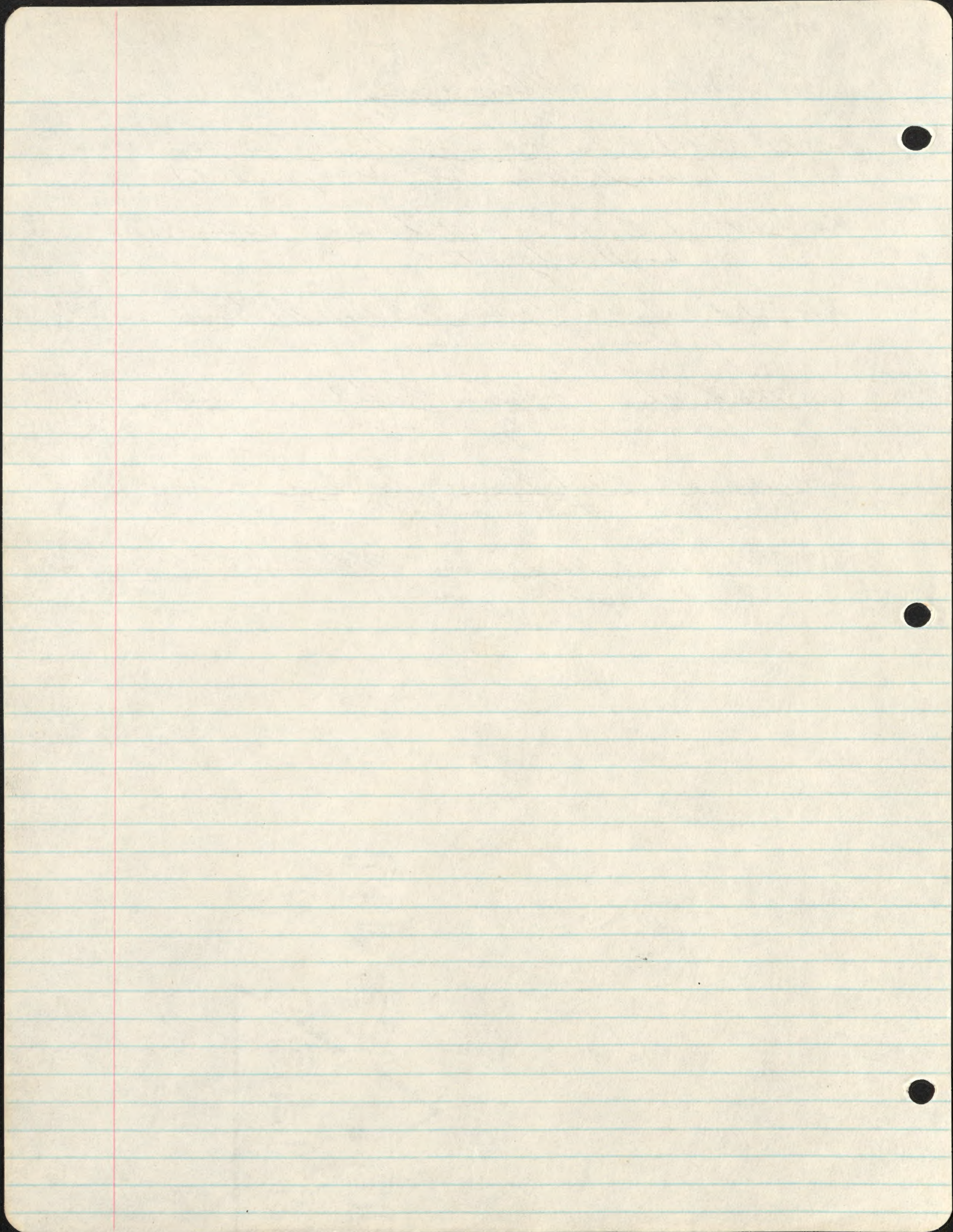
Nov. 17 Beli R. 18 km N Loh Hobema, Netherlands New Guinea 2200m
2 brought in by natives.

Nov. 18 Beli R. 18 km N Loh Hobema, Netherlands New Guinea 2200m.
1 brought in by natives.

Nov. 25 Beli R. 18 km N Loh Hobema, Netherlands New Guinea 2200m.
2 brought in by natives.

Nov. 30 Beli R. 18 km N Loh Hobema, Netherlands New Guinea 2200m.
1 brought in by natives.

Dec. 2 Beli R. 18 km N Loh Hobema, Netherlands New Guinea 2200m
1 brought in by natives.



Wm B. Richardson
1938

Melomys

June 14 Hollandia, Netherlands New Guinea

Caught 1 individual in the 100 traps. It was caught in a runway beneath a low growing *Pondorus* plant. The hill slope was steep and poorly vegetated. The vegetation consisted of small trees and semi-lower undergrowth. There was a rather thick mat of leaves covering the thin redish brown stone soil. The only apparent evidence of mammals in this region was the short trail going in place and beginning replace one which any small mammal might use in passing along beneath the underbrush rather than the *Pondorus*.

June 15 Hollandia, Netherlands New Guinea

Caught another *Melomys* in the same vicinity and in the same type of surroundings as the above. It was not however caught beneath a *Pondorus* but rather in a ^{small} trail through a loose tangle of litter. Trails seem to be used only to the more difficult regions for these animals travel over.

June 16 Hollandia, Netherlands New Guinea

Obtained three specimens from the 200 traps. They were taken in the hill set south west of Hollandia, from the same line that the previous ones were taken from. I did not remove them from the set. The peculiar thing was that each of the three had been gnawed into over the shoulder by another small animal. This gnawing was through the back, just behind the shoulder, into the pleural cavity. One embryo was taken from one and two from the other two animals. These are preserved in alcohol. (Nos. 4013, 4014, 4015)

June 17 Hollandia, Netherlands New Guinea.

Caught 1 individual in the 200 traps. The trap in which it was caught was set at the edge of a grassy clump bordering a low scrubby second growth forest. There are numerous small paths through the clump and neighboring clumps that I assume are used by these animals. These animals cannot be very abundant however for there are approximately 75 traps set in just such places, having been set there for two nights. This forest is in the lower small flood plain of a small river to the north east of Hollandia. (1/2 kilometer). Three (3) large embryos were taken from the animal.

The native names for these animals are -

Tekus Kitchil	- Malay
Pom glu	- Sentani
Mesing	- Totobato

June 18 Hollandia, Netherlands New Guinea

Caught 1 individual in the 200 traps. It was caught in a trap set in a little trail which skirted a little bush (indistinct trail). This was in a second growth forest which covered a hill slope. Beneath the forest proper there were clumps of brush or undergrowth, lichen spots, and a few spots had a rather open forest floor. There were small jagged limestone outcrops which however do not offer shelter. The soil is a rich red laterite varying in depth and with a thin cover of leaves and humus.

June 24 Hollandia, Netherlands New Guinea

Caught 1 individual in the 391 traps. It was caught on the jungle floor where there is a rather thick undergrowth and lichen. The trap was situated about 1/2 mi. south west of Hollandia on a near the limestone ridge.

Melomys

June 25 Hollandia, Netherlands New Guinea.

Two individuals caught in the 391 traps. One was taken by the Papuan collector the other by the Dyak collector. They were both taken south west of Hollandia in a cut over rain forest. The specimen taken by the Dyak was badly eaten by ants before it was removed from the traps.

June 28 Hollandia, Netherlands New Guinea.

The Dyaks caught two individuals in their trap which was so badly eaten by ants that only the skulls were saved.

June 29 Hollandia, Netherlands New Guinea.

The Papuan collectors found one of this species in the jungle during their daily hunt.

July 2 Hollandia, Netherlands New Guinea.

Yesterday afternoon I found the decomposing remains of one of this genus. It was lying in the sand beneath a shelving rock 10 ft. east of the small river that flows south eastward back of the Hooklands home. The country in general was that of a rain forest through which, in a steep reverse, passed a boulder studded small river.

July 3 Hollandia, Netherlands New Guinea.

See general account.

July 8 Hollandia, Netherlands New Guinea.

One caught in the 442 traps. It was taken in one of the traps set by the Papuan collector in the cut over jungle north of Hollandia. Its stomach was filled with a vegetable material resembling pulverized fruit.

Oct 12 9 km NE Lake Habbema, Netherlands New Guinea 2800m.
3 (2 sp.) in 350 traps. The larger of the
two species was taken in a trap set in the
runway at the upper edge of a mossy clump
about the base of a tree. The general region
was that of a pandanus grove in the mossy
forest. The (one individual) other species was taken
in the same pandanus grove & in a trail
through the ^{mossy} forest litter.

Oct 13 9 km NE Lake Habbema, Netherlands New Guinea 2800m.
2 in 431 traps. Both individuals
were brought in by collectors. Taken in
mossy forest, and probably in runways
in or near pandanus ~~clump~~ grove.

Oct 14 9 km NE Lake Habbema, Netherlands New Guinea 2800m
1 in 431 traps. Taken in trap set in
runway over the mossy ground cover of the forest.
The conspicuous thing was the absence of litter
in the immediate vicinity and the mossy ground
cover ~~over~~ ^{through} which the trail passed. The
general region was that of the edge of a
pandanus grove in the mossy forest.

Oct 15 9 km NE Lake Habbema, Netherlands New Guinea 2800m.
3 in 431 traps. Three of the smaller
species brought in by collectors.

Oct 16 9 km NE Lake Habbema, Netherlands New Guinea 2800m
3 in 431 traps. The two smaller specimens (small
sp.) brought in by collectors. Larger sp. taken in runway
at the edge of a fallen log in the heavy litter
of a pandanus grove in the mossy forest.

Oct 17 9 km NE Lake Habbema, Netherlands New Guinea 2800m
1 in 431 traps. The smaller specimen was
taken by collectors from their trap line. The larger
was taken by a native. It had apparently been
caught in a dead fall.

Melomys

- Oct. 18 9 km NE Lake Habbema, Netherlands New Guinea, 2800m.
4 in 425 traps. The small species is fairly common in the forest undergrowth and litter, mossy covered logs etc.
- Oct. 19 9 km NE Lake Habbema, Netherlands New Guinea, 2800m.
1 in 425 traps. Taken in running through litter in open bushy undergrowth of the mossy forest.
- Oct. 20 9 km NE Lake Habbema, Netherlands New Guinea, 2800m.
1 in 220 traps. Taken in running through moss covered rotting log.
- Oct. 21 9 km NE Lake Habbema, Netherlands New Guinea, 2800m.
4 in 445 traps. The two smaller specimens of the smaller species were taken in running through the litter in the bushy or pandanus areas of the mossy forest. The larger sp. was brought in by collectors. It contained a stomach filled with the fleshy parts of fruit, fungus and the like.
- Oct. 22 9 km NE Lake Habbema, Netherlands New Guinea, 2800m.
1 in 418 traps. Taken in bushy thicket of the pandanus grove in mossy forest.
- Oct. 23 9 km NE Lake Habbema, Netherlands New Guinea, 2800m.
2 in 418 traps. The smaller species taken in open mossy forest with bushy undergrowth and litter. The other, the larger species, was brought in by collectors.
- Oct. 24 9 km NE Lake Habbema, Netherlands New Guinea, 2800m.
2 in 414 traps. Taken in open mossy forest where there is a quantity of litter and undergrowth.
- Oct. 25 9 km NE Lake Habbema, Netherlands New Guinea, 2800m.
1 in 414 traps. Brought in by natives. It was apparently taken in a dead fall from the flattened appearance of the feet. It was probably taken at a lower altitude.

Oct 26 9 km NE Lake Habbema, Netherlands New Guinea 2800-2700m.

♂ in 409 traps. This ^(the smaller) species seems to prefer the type of habitat in which there is an undergrowth of bush as well as better on the floor of the mossy forest. Occurs both in mossy forest and second growth along the lower slopes of the stream side.

#5239 a new species for this camp was taken from a trap set in a runway at the base of a big in a bushy littered spot at the edge of the second growth of mossy forest.

Oct 27 9 km NE Lake Habbema, Netherlands New Guinea 2800m.

1 in 413 traps. Specimen taken in trap set in primary beneath mossy log in the undergrowth of the mossy forest.

Oct 28 9 km NE Lake Habbema, Netherlands New Guinea 2700m.

2 in 413 traps. Brought in by collectors.

Oct 29 9 km NE Lake Habbema, Netherlands New Guinea 2700m.

2 in 413 traps. Brought in by collectors.

Oct 30 9 km NE Lake Habbema, Netherlands New Guinea 2800m.

3: 2 caught in 413 traps, 1 brought in by a native.

Oct 31 9 km NE Lake Habbema, Netherlands New Guinea 2800m.

3 in 413 traps. One individual taken in trap set in trail through littered undergrowth of the same "mossy forest". The other 2 were brought in by natives.

Nov 1 9 km NE Lake Habbema, Netherlands New Guinea, 2800m.

2 in 413 traps. Brought in by collecting boys.

Nov 2 9 km NE Lake Habbema, Netherlands New Guinea 2700m.

1 in 197 traps. Brought in by collectors.

Nov 3 9 km NE Lake Habbema, Netherlands New Guinea 2700m.

1 in 257 traps. Brought in by collectors.

Melomys

- Nov 4 9 km NE Lake Habbema, Netherlands New Guinea 2800-2700 m.
3 in 347 traps. #5351 taken near the stream
in the brushy litters of the mossy forest. The trap
was set in a small runway about the end of a fallen
log. #5352 taken in an open runway ~~through~~ ^{over}
the leaves covering the floor of the same forest.
The other individual brought in by natives collectors.
- Nov 5 9 km NE Lake Habbema, Netherlands New Guinea 2800-2700 m.
4 in 347 traps. The larger species living there
in runways though underground in open forest floor.
Conditions usually moist. The smaller species taken
in the littered underground of the mossy forest.
- Nov 6 Bele R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives.
- Nov 7 Bele River, 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.
- Nov 8 Bele River, 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
2:1 in 218 traps #5393 brought in by natives. The
individual taken in trap, was caught in runway though
forest litter at the edge of a sand strip.
- Nov 9 Bele River, 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
4:1 in 308 traps. 3 brought in by natives. The
individual taken in trap #5415 was trapped in the litter,
beneath a log, in the heavy forest. Scattered bits
of underground in the vicinity.
- Nov 10 Bele R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
6:4 brought in by natives. 2 taken in 308 traps.
- Nov 11 Bele R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
7:1 in 308 traps. 6 brought in by natives.
- Nov 12 Bele R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
5:1 in 308 traps 4 in by natives.

Nov 13 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 29 stick traps 308 wooden traps. Brought in by
collecting ~~boy~~ boy. Taken in forested area.

Nov 14 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
12 brought in by natives.

Nov 15 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
19: 2 in 416 traps, 17 brought in by natives
Those in traps # 5614 + # 5615 were taken by collector
in the heavy forest.

Nov 16 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
6: 4 brought in by natives 2 in 416 traps.
5653 and # 5654. Taken in forested region.

Nov 17 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
17: 15 brought in by natives. 2 taken in 416 traps
5693 + # 5694 brought in by collector from forested
area.

Nov 18 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
27: 26 brought in by natives. 1 in 416 traps. # 5765
taken in forested area. The series prepared today
showed clearly that the what I believed previously
to be two sp. in sexual differences. The ♂ tail,
when adult is light colored (whitish) ventrally and
dark ^{grayish} colored dorsally. The ♀ on the other hand, when adult,
is dark ^{grayish} colored dorsally and ventrally and the tail scales
appear to be more pronounced. The young in
both cases resemble that of the ♂

Nov 19 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
22 brought in by natives.

Nov 20 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
20 brought in by natives.

Nov 21 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
16 brought in by natives.

Uromys

Nov 22 Belu R. 18 km N Loh Kallima, Netherlands New Guinea 2200m.

15: 13 brought in by natives, 2 taken in 404 traps.
Those in traps were taken in small clear runways
through the open undergrowth and also on the leafy
forest floor.

Nov 23 Belu R. 18 km N Loh Kallima, Netherlands New Guinea 2200m.

23: 22 brought in by natives; 1 taken in 404 traps.
The latter was taken in a forested area where there
was a thin undergrowth of grass and scattered
litter. The ^{trap} ^{set in} was on a well defined trail beneath
the roots of a Pandanus.

Nov 24 Belu R. 18 km N Loh Kallima, Netherlands New Guinea 2200m.

16 brought in by natives. One individual, ^{small woodhose}
not put up because of broken ^{shell}, was taken in traps set
in forested area where there was an open bushy undergrowth,
and a scattered litter.

Nov 25 Belu R. 18 km N Loh Kallima, Netherlands New Guinea 2200m.

18 brought in by natives. One specimen, discarded,
if the small forest species was taken in a small runway
through the open undergrowth of the same forest. Leafy
ground cover.

Nov 26 Belu R. 18 km N Loh Kallima, Netherlands New Guinea 2200m.

4 brought in by natives.

Nov 27 Belu R. 18 km N Loh Kallima, Netherlands New Guinea 2200m.

12: 11 brought in by natives; 1, ^{#6172} in 404 traps.
Taken by collector in open forested area with
ground cover of leaves and litter and open undergrowth.

Nov 28 Belu R. 18 km N Loh Kallima, Netherlands New Guinea 2200m.

1 albino brought in by natives.

Nov 29 Belu R. 18 km N Loh Kallima, Netherlands New Guinea 2200m.

8 (2 discarded in 411 traps). This habitat
seems to be that of the large forest

where there is undergrowth, usually rather thin, lichen and a leaf covered forest floor. They are caught in traps set in runways over the leafy forest floor, and about the lichen and among the bases of the brush.

Dec 1 Bali R. 18 km N Lake Halibawa, Netherlands New Guinea 2200m.

1 in 399 traps. Taken in same forest where there was an undergrowth of climbing lianas and rotan dominated the shrubbery. Leafy forest floor and scattered logs and small lichen.

Dec 2 Bali R. 18 km N Lake Halibawa, Netherlands New Guinea 2200m.

23: 19 brought in by natives, 4 taken in 399 traps. Of the two specimens which I removed from the traps (1 large sp. 1 small sp.) both were taken in forest undergrowth where there was lichen accumulation and a leafy forest floor.

Dec 3 Bali R. 18 km N Lake Halibawa, Netherlands New Guinea 2200m.

2 brought in by natives.

Dec 9 Balim R. Netherlands New Guinea 1600m.

1 brought in by natives.

Dec 10 Balim R. Netherlands New Guinea 1600m.

11 in 199 traps. Taken in several types of cover, that of solid cane grass along a small wash, in the thick grass of the abandoned gardens, and the mixed grass, cane grass and shrubs along a wash. There are indistinct runways. One nest, apparently of this sp. was found about 2 ft off the ground in a very thick clump of grass. It was a ball of grass some 4 or 5 inches in diameter with ^{entrances} at the bottom and another near the top. There was no lining, just a ball of grass blades.

Dec 11 Balim R. Netherlands New Guinea 1600m.

18 in 384 traps. Taken in a about abandoned gardens where the ^{basal} vegetation consists of ^{mixed} grasses and brush. Usually in obscure runways.

Melomys

Dec 12 Belim River, Netherlands New Guinea 1600 m.
9 in 380 traps. Taken in or about old gardens where there is ~~an~~ grass - mixed grass and broad cover vegetation. The mixed cover seems to be preferable.

Dec 13 Belim R. Netherlands New Guinea 1600 m.
9:1 in 380 traps. Brought in by collectors. 8 brought in by natives.

Dec 14 Belim R. Netherlands New Guinea 1600 m.
4: 3 in traps (370). 1 in by natives. Those in traps were taken in grassy cover with canopy of casuarina or fig. Special note should be made of #7211, which was taken in trap set in obscure runway through the grass at the lip of the river bank. Here there is an open growth of casuarina and fig trees as well as scattered clumps of cane grass.

Dec 15 Belim R. Netherlands New Guinea 1600 m.
10: 3 by natives. 7 in 370 traps. Those taken in traps (both sp.) were taken in grassy patches along the river bank. Rather in taken in similar spots but its habitat seems to be one of a more pure grassy area while that of Melomys is more or less among broad areas, rock outcrops, and second growth forest.

Several days ago one of the smaller species was taken in a trap set in a fig tree some 3 ft above the ground. The tree certainly had immature fruit.

Dec 16 Belim R. Netherlands New Guinea 1600 m.
6: 1 by natives, 5 in 357 traps. 4 of the 5 were taken on a hill slope, an old garden clearing with rocks, grass and scattered low growing bushes.

Dec 17 Belim R. Netherlands New Guinea 1600 m.
2 in 357 traps. 1 individual caught on a grassy hill slope with numerous boulders and limestone outcrops.

Dec 18 Balim R. Netherlands New Guinea 1600 m.
3 in 357 traps. Brought in by collector.

Dec 19 Balim R. Netherlands New Guinea 1600 m.
1 in 357 traps. Brought in by ~~collector~~ collector.

Jan 10 15 km S W Berand Camp, Hubing River, Netherlands New Guinea 1800 m.
2 in 232 traps. Taken in the mossy forest.

One individual in a trap set beneath an open shrub on a very mossy forest floor. The other was taken beneath a clump of roots at the base of a tree. In each case the traps were set in an obscure runway. The forest was heavy - scattered large trees, with thick second story and scattered undergrowth. Much litter in the region such as fallen and decaying trees.

Jan 11 10 in 425 traps. This included 3 species.

The larger sp. was brought in by collector who says it was caught at the edge of a fallen log near a hole which went under said log. The general area is that of mossy forest with moderately thick second story growth and scattered undergrowth among the moss covered debris of fallen logs. The two smaller species were taken in practically identical ~~habitat~~ habitats as near as I could determine that is the mossy forest under logs, about brush and over open moss covered forest floor. These seem to be a slight tendency for the grey ^[Pseudohydromys] sp. to inhabit the more open areas while the brown seeks cover of logs, brush, etc.

Jan 12 5 in 425 traps. Of the two ^{small} species taken in this vicinity the grey one ^[Pseudohydromys] seems to inhabit the mossy forest floor where there is cover of undergrowth. The small brown species inhabits the area of more litter being taken frequently beneath logs or about the base of trees with exposed aerial roots. It in this respect tends to inhabit similar habitats of Stomoxys.

Jan 14 1 in 425 traps. Brought in by collector.

Melomys

Jan 15 15th S W Burnard Camp Idorby R. Netherlands New Guinea 1800m.

6 in 420 traps. Both species were taken in more or less protected spots, that is cover, such as beneath logs, short stumps, and under or about root bases of trees. This may be due to the heavy rain which necessitated that these animals search for food as well as travel in the drier areas. The larger species in particular was in each case taken in small runways beneath moss covered logs. These runways were completely shaped in by moss hanging from the sides of the logs ^{with the} only ^{obscure} small openings at which the traps were set.

Jan 16 5 in 420 traps. Brought in by collector.

Jan 17 5 in 419 traps. A majority of the individuals taken today were caught in small runways through small bush thickets or litter.

Jan 18 1 in 421 traps. Taken in runway ^{on} mossy forest floor at base of large tree. Undergrowth in immediate vicinity.

Jan 19 1 in 421 traps. Brought in by collector.

Jan 20 2 in 421 traps. The large sp. was brought in by collector. The small brown species was taken in a small runway at the edge of an undergrowth thicket in the moss forest.

Jan 21 2 in 421 + 28 traps. One individual brought in by collector the other taken ^{in still traps set in} in runway beneath a fallen log. The path appeared to be well used and quite probably by some larger mammal such as *Peromyscus*. The area in general was that of a littered mossy forest floor.

Jan 22 1 in 421 traps Brought in by collector.

Jan 23 1 in 421 traps " " "

Jan 25 1 in 28 still traps " " "

Jan 26 2 in 419 traps. Taken among brush litter in a small runway over the forest floor.

Jan 27 1 in 228 traps. Brought in by collector.

Jan 28 1 in 228 " " "

Jan 29 " " 228 traps Brought in by collector.

Jan 30 1 in 228 " " "

Feb 1 18 km SW Bunder Camp Humbly R. Netherlands New Guinea 2150 m.

1 in ¹⁴³ traps. Caught in trap set in small runway over the ~~moor~~ moss at the base of shrubs on the steep ~~or~~ brushy hill slope. This brushy habitat is peculiar to a small area about the top of a hill. It is on a very steep rocky slope where soil and climate apparently prevent ~~any~~ typical mossy forest conditions.

Feb 2 2 in 227 traps. The smaller sp. was taken in the same trap as the individual taken on Feb. 1. The larger species taken in a rather low mossy forest. Heavy moss covering trees and steep hill slopes.

Feb 3 1 in ²²⁷ traps. Brought in by collector.

Feb 5 2 in 411 traps. Taken in obscure runways over the forest floor near or at the edge of littered spots. Habitat is mossy forest with undergrowth of bamboo.

Feb 6 1 in 411 traps. Taken in runway over the forest floor through a rather dense thicket of bamboo. Habitat mossy forest with bamboo undergrowth.

Feb 7 2 in 411 traps. Brought in by collector. Small species taken in open forest runway in the bamboo thicket, undergrowth of the mossy forest. Emb. Larger sp. taken at the edge of a log in runway. Habitat mossy forest with bamboo undergrowth.

Feb 8 1 in 411 traps. Brought in by ~~other~~ collectors.

Feb 14 4 km SW Bunder Camp Humbly R. Netherlands New Guinea 1200 m.

2 in 185 mouse traps. Brought in by collectors. Badly damaged by ants.

1 in 223 rat traps. Brought in by collectors.

Feb 15 Open forest runway. Stomach contained fruits and green vegetation. There were only 2 mucous glands present, no trace of the others. These two were enlarged and lactating. No signs of emb.

Feb 19 1 in 223 traps. Brought in by collector.

Feb 20 1 in 223 traps. Taken on forest slope with heavy undergrowth and litter.

Microtus

- Feb. 21 6 km SW Barahona Camp, Denham P. Highlands, Mar. Guinea 1200 m.
2 ~~set~~ in 223 net traps. Brought in by collectors.
The small species had 4 mammary glands, the larger species only 2.
- Feb. 23 4 (2 sp.) in 221 traps. The rest of the smaller species taken in ^{open} runways over forest floor through area of scattered undergrowth. The other 3 specimens brought in by collectors.
- Feb. 24 1 in 17 stake traps. Brought in by collectors. Testes small.
- Feb. 28 1 in 220 net traps. Taken in forest runway. Habitat was that of heavy undergrowth and second story vegetation. The actual forest floor was quite open, and kept littered with occasional logs etc. Stomach contained remains of fruit.
- Mar. 1 2 in 217 ^{net} traps + 17 stake traps. The larger species brought in by collectors. Stomach contained remains of fruit. 2 mammary glands only. The smaller species was taken in a very bushy thicket ~~near~~ a land slope which piled up with sand as fallen tree boulders etc. The head had been eaten through apparently by some other mammal.
- Mar. 3 4: 3 in 217 net traps + 173 mouse traps. 1 picked up dead by one of Bonds collecting logs. The two ~~small~~ specimens of the small species were taken in mouse traps 1 set at the base of a large forest tree and the other at the edge of a fallen log. Both in ^{semi-protected} runways ~~had~~ with undergrowth and litter acting as cover. The two are presumably different species. The 1 specimen of the larger species taken in net traps. Brought in by collector. No emb. Two mammary.
- Mar. 4 1 in 27 stake traps. Brought in by collectors. Fruit remains in stomach.
- Mar. 5 5 in ¹⁷² ~~217~~ mouse traps, 217 net traps, 27 stake traps. Brought in by collectors. The stomachs of the larger species contained fruit remains. The stomach of the smaller species green vegetation ^(leaves + stems) as well as a fruit.

Mar. 7 4 km SW Banked Camp Ikerburg River, Melburne New Guinea 8500m.

4 in 388 traps Brought in by collectors.
Both species contained remains of fruit in stomachs.

Mar. 8 1 in 388 traps. Brought in by natives.

Stomach contained fruit remains.

Mar. 9 3 in 388 traps + 141 snare. Brought in by collectors.

Mar. 10 1 in 388 traps. Brought in by collectors.

Mar. 12 2 in 388 traps. Brought in by collector. Many female for large species 2 (1 pair) positive. For smaller sp. 4 (2 pair) positive.

Mar. 13 1 in 388 traps. Brought in by collectors. Stomach contained remains of fruit. Enlarged spots on intestines; no apparent emb. 4 mammals.

Mar. 14 1 in 388 traps. Brought in by collector.

Mar. 15 1 in 442 snare. Brought in by collectors.

Stomach contained remains of fruit.

Mar. 16 1 in 209 net traps. Brought in by collector. Skin spoiled by ants.

Mar. 17 1 in 155 snare traps. Brought in by collector.

Stomach contained remains of fruit. No emb. 4 mammals.

Mar. 18 2 in 364 traps. Brought in by collector.

No emb. Stomach contained ^{the end of} fruit remains.

Mar. 19 1 in 364 traps. Brought in by collector.

2 emb. Stomach contained fruit remains.

Mar. 20 4 in 359 traps + 27 stake + 643 snare. Brought in by collectors.

Mar. 21 1 in 670 snare. Brought in by collectors.

Mar. 22 1 in 27 stake traps. " " "

Mar. 23 2: 1 in 359 traps; 1 caught in insect net.

The specimen taken in traps was brought in by collector. Although the assistant of Dr. Foxgen caught an adult ♂ in insect net. According to him it was running along the edge of camp clearing. This evening I also saw one come out from beneath the dining room floor and run along the camp clearing at the river edge. The gait was a run and not a jumping as might be expected. However, it might have resorted to jumping had it been disturbed.

Melomys

Mar. 24 4 Km SW Burnland Camp Idenburg R. Netherlands New Guinea 850 m.
3 in 359 traps Brought in by collectors.

Mar. 25 4 Km SW Burnland Camp Idenburg R. Netherlands New Guinea 850 m.
3 in 357 traps.

The small sp. taken at the edge of a rather bog in a littered area, with moderately dense undergrowth and second story and sparse scattered large forest trees. Area at the edge of the Agathis forest. The trap was placed in a runway at the edge of the rotting log. Large species in a runway through a undergrowth thicket. Habitat: moist hill slope with dense patches of undergrowth; moderately thick second story and scattered large trees. The medium sized sp. (which is new for the collection) was brought in by a collector. Habitat is the moist conditions with bushy vegetation and thick second growth ^{along} the ~~the~~ banks of the stream close camp. Actually the trap line was set along upper bank of the river and the lower edge of the flood plain. Stomach contents of large species contained remains of fruit; of med. species fruit, green vegetation, and several ants; of small species fruit remains.

Mar. 26 4 in 327 set traps + 832 snares. One of the small species was taken from the traps ^{traps} by me. Habitat is second growth forest close the flood plain where the undergrowth and litter is abundant. The other 3 individuals brought in by collectors. No emb. in 9.

Mar. 30 1 in 207 set traps. Taken in Agathis forest with rather heavy undergrowth and leaf litter. Trap was set in runway.

Mar. 31 4 in 332 traps, 27 steel traps, 931 snares - 3 brought in by collectors. " 7762 Taken in runway through the undergrowth. The trap was set at upper edge of the river bank where it joins the flood plain. Rather heavy undergrowth and flood plain vegetation. Stomachs of the two prepared specimens contained fruit remains. The small species, in alcohol, ~~was~~ had a perodons sud in mouth when

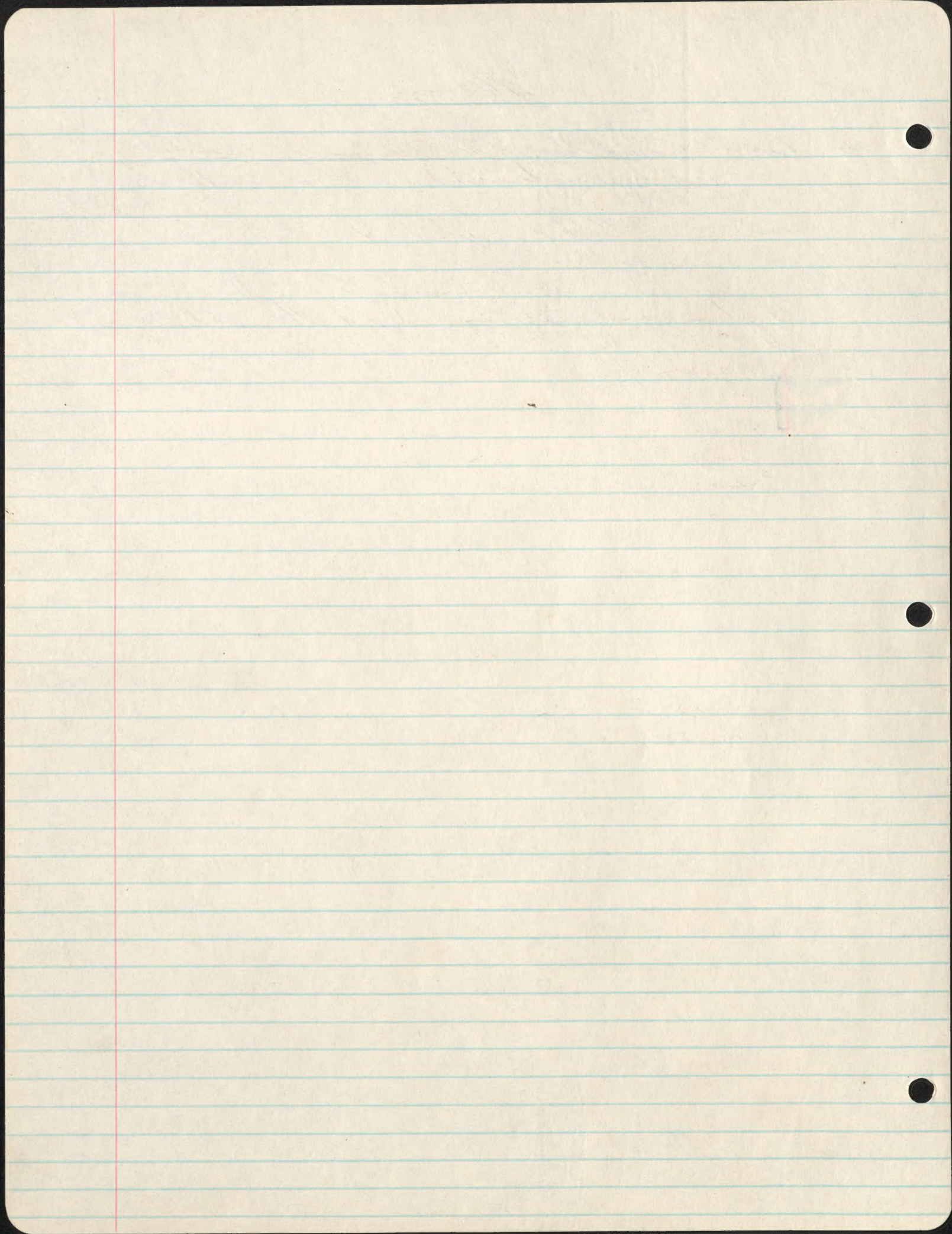
traps. This particular trap was set near the fruit which had fallen with the hopes of catching such animals as fed upon these fruits. These fruits are eaten by fruit bats as well as birds.

- Apr. 1 1 in 27 stub traps. Brought in by collector.
4 km. SW Bernhard Camp Idenburg River, Netherlands New Guinea 850 m.
- Apr. 2 1 in 330 traps. Taken in small runway through undergrowth of the flood plain vegetation bordering the river bank.
- Apr. 3 1 in 987 snags. Brought in by collector.
- Apr. 5 1 in 203 net traps.
Apparently juvenile; later not enlarged.
- Apr. 6 4 in 295 traps + 1075 snags. Brought in by collectors.
- Apr. 7 4 in 295 traps + 1075 snags. Brought in by collectors.
- Apr. 9 Bernhard Camp Idenburg R., Netherlands New Guinea 80 m. - 50 m.
1 in 346 traps. Habitat - Rocky river wash, leaf litter, scattered undergrowth, heavy canopy of small trees.
- Apr. 10 1 in 346 traps. ~~See~~ Taken in similar place as specimen of Apr. 9. except little less undergrowth, rather open forest floor except for sitting leaf litter.
- Apr. 20 1 killed in "godown" (store room) at main camp.
- Apr. 22 1 in 29 spurs traps. Brought in by collector.
Taken on lower ^{mountain} slopes above flood plane.
- Apr. 27 1 in 250 net traps. Taken on narrow strip of land at the edge of the flood plane. The rising water has ~~been~~ covered most of the lowlands with water leaving only small areas exposed. The ground is very moist and will probably be inundated in several days.
- Apr. 29 1 in 234 net traps. Taken on forested lagoon edge. Trap set on moist forest floor. Area subject to inundation.

Melomys

Apr. 30 Berndt Camp, Darling River, New South Wales, 50 m
1 taken in godown (storehouse). It apparently had
been there for some time for it had a crudely constructed
nest in a black box which had been used
for radio parts.

May 5 1 taken in 225 traps. Taken on the east side
of the river along the inner edge of the cane
thickets. The area is little affected by high water,
small patches of grass, scattered trees, and brush clumps.



Wm B. Richardson
1938
1939

Miniopterus

July 5 11 km. S.E. Hollandia, Netherlands New Guinea.

The cave from which these bats were taken is a large hole cut in the ^{limestone} sea cliff by the action of the waves. There were a number of caves along the cliff but only one, the largest seen, was visited. We entered the cave by glow and without artificial light. Little hundreds presumably of this species could be seen. They were clinging separately to the sheer wall face. On entrance and shooting seen disturbed them and they either retreated to holes or cracks in the cliff or flew about the room. There were two other species of bats in the same cave. - Dobsonia and Myotis.

July 8 1 1/2 km S Ajapo, Sentani Lake, Netherlands New Guinea.

Two of the species of bats were brought in today by one of my Poppon collectors from the vicinity of his camp, Ajapo, on Sentani Lake. According to his story they were taken from a cave. Besides the two sp. of bats there was Myotis sp.

July 14 Hollandia, Netherlands New Guinea.

The specimen prepared today was one of four brought in by a native from Sabatu.

Dec 17 Balim R. Netherlands New Guinea 1400 m.

1 shot yesterday evening. It was flying relatively early about the tops of the casuarina trees. Its flight was swift. with few beats and yet it was apparently feeding.

Jan 14 15 km SW Bernhard Camp, Denbury R. Netherlands New Guinea 1800 m.

1 taken by Althoff yesterday evening as it was flying about the insect lamps. Foropus has removed 4 or 5 sp. of insects from the individual. Bats have been seen several evenings flying within several yards of the lamp and on one occasion the bat

was seen capturing and eating, with the exception of the wings,
a sphinx moth.

Jan 17

1 shot last evening by collecting bag. It was flying
low (10-20 feet above the ground) over camp. It has a swift
quick breaking flight. It rarely begins long at any one
spot or doubles back in its direction of flight but
rather continues rapidly along in a more or less
determined direction. Judging from the flight mode
these bats are quite common here appearing early
in the evening and continue flying as late as we can see.
(6:35 to 7:10). $\frac{2}{3}$ of the numbers ^{of bats} seen here must
be of this species.

Feb 14 6 km SW Bernhard Camp Irian P. Netherlands New Guinea 1200 m.

1 shot yesterday evening. It was flying
high $\frac{3}{4}$ distance of tree. Apparently feeding in
small open spaces among the lower foliage
of the tree tops.

Feb 16 2 shot yesterday evening, one by Road and
the other by Schurden. Only one contained
ent. ^{fragments}. These bats were foraging about
midnight across a narrow camp
clearing. Moderately swift flight with few beats.

Mar. 4

2 shot by Road. Flying about 50 ft above
the ground in a narrow section of the
camp clearing.

Apr. 22 Bernhard Camp Irian P. Netherlands New Guinea 50 m.

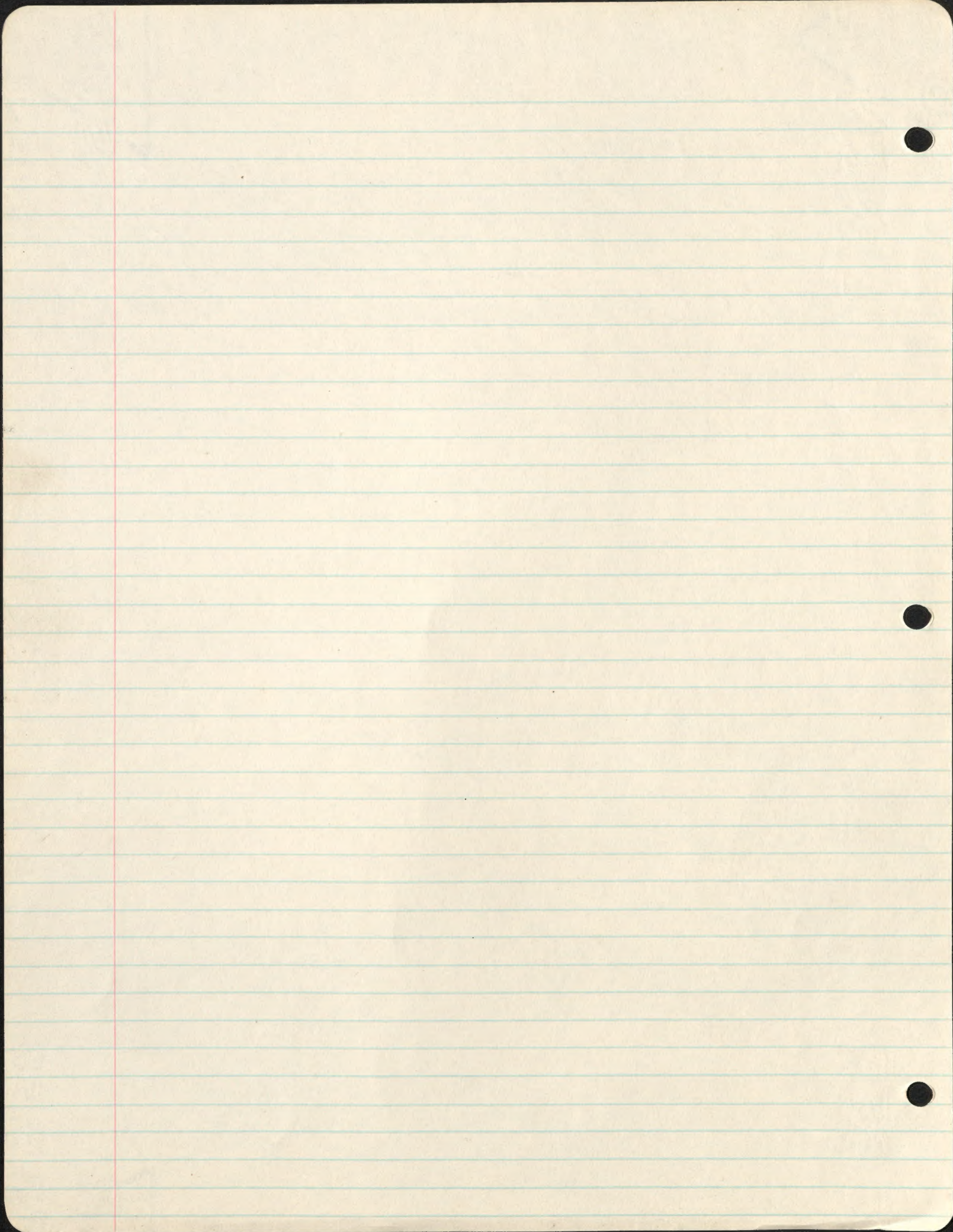
1 shot yesterday evening by Road.

25. M. B. Richardson
1938

Mos

June 14 Hollandia, Netherlands New Guinea.

One young animal was purchased ⁽⁰⁵⁴⁾ from a boy who was keeping the little beast to amuse his savage friends. About one of the hind feet of the animal was tied a piece of grass string and to the other end a piece of paper and as the beast scampered away the paper would flutter over the ground adding much to the pleasure of the young natives.



Wm. B. Richardson
1938

Myotis

July 5 11 km SE Hollandia, Netherlands New Guinea

Shot 1 of this genus in a large lime stone cave at in a sea cliff. This genus was the ^{of 3 genera} rarest seen in the cave. Although we could not identify them for certain the one obtained had a slower steeper wing beat and a lighter coloration than the common Miniopterus. Several (4) others were seen with a similar flight. Two other genera were seen in this cave Miniopterus and Dobsonia (see species notes of these forms)

July 8 1 1/2 km S Ajapa, Sentani Lake, Netherlands New Guinea

One of my Papuan collectors returned from his company, Ajapa, with a box of bats. This species was taken in quantity. There were 4 and 3 of two species of Miniopterus in the same box. According to his story they were taken in a cave.

July 11 Hollandia, Netherlands New Guinea

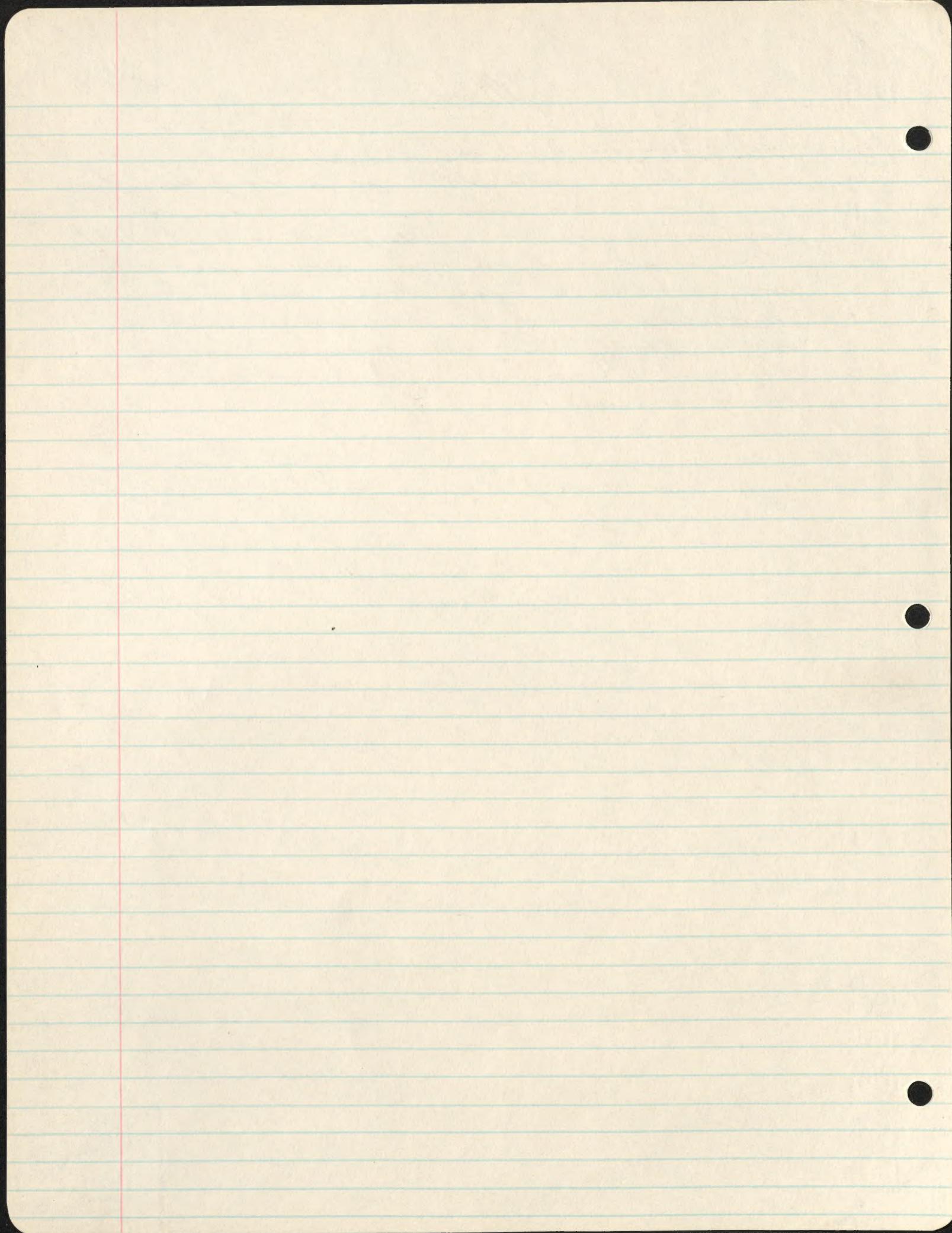
A local Papuan came in today with seven bats of this species. According to him they were taken from the native houses of Ingroe.

July 14-16 Hollandia, Netherlands New Guinea

These three specimens were brought in by local natives. Do not know the exact locality.

Oct 18 9 km NE Lake Halbu, Netherlands New Guinea 2800m.

One individual taken by one of Torosyan's collecting boys. It was caught in an insect net while flying about the ^{insect} lamp.

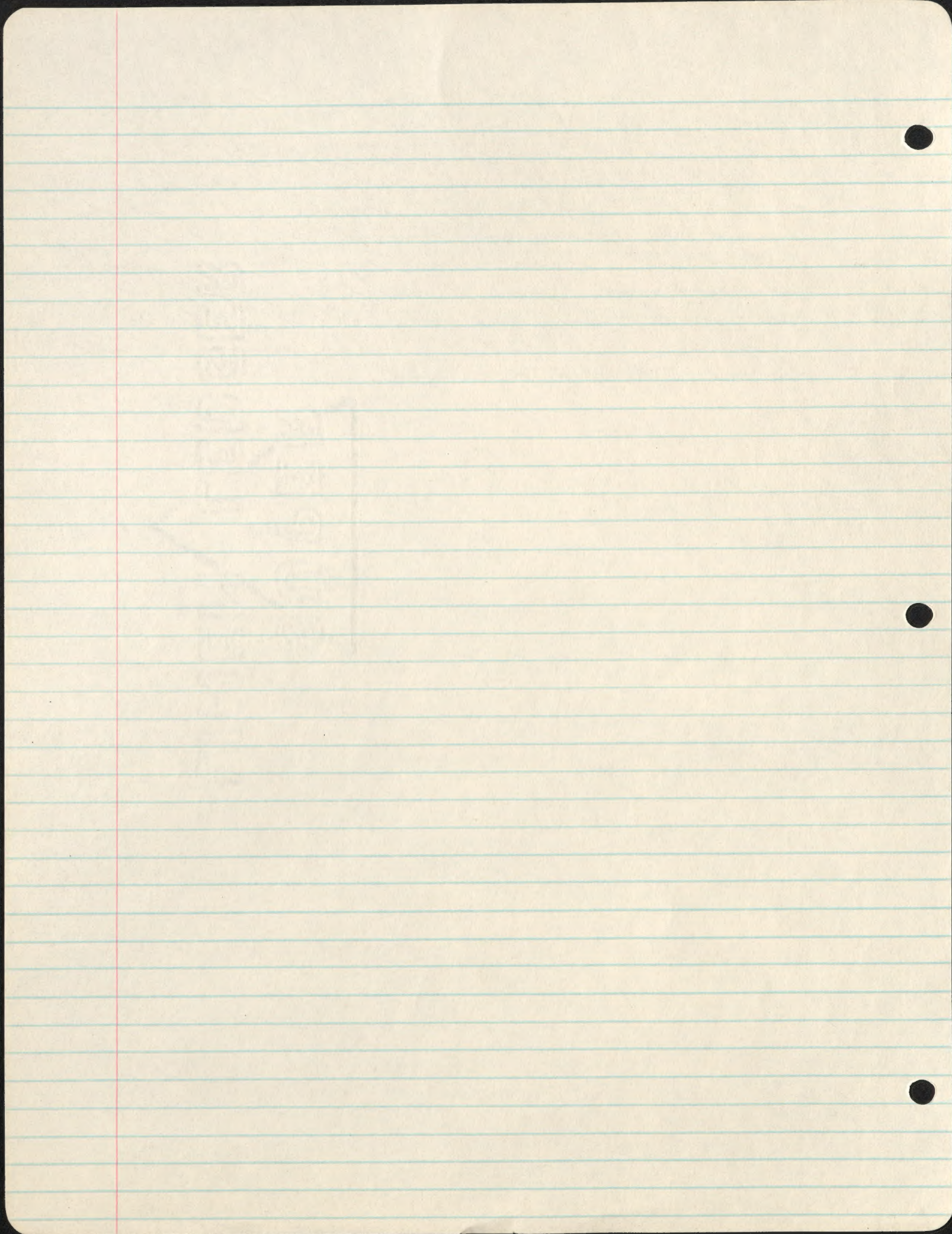


25713. Richardson
1939

Nyctimene

Mar. 22 4 km. SW Dumbud Camp Idenburg R., Netherlands New Guinea 850 m.

1 shot yesterday evening while out jacking.
It was seen with spotlight flying about a fruiting
Eugenia tree a common tree of the forest
glades. Its flight was very slow and sometimes
it seemingly poised while in flight. It
was not seen while on the tree but
only in flight about its upper fruiting branches.
No emb. No food in stomach.



Peroryctes

Aug 18 Lake Hattema, Netherlands New Guinea 3225 m.

1 in 21 stick traps. This individual was taken in traps set 1 kilometre north north east of camp 50 yards inside a heavy mossy forest. The traps were set some well on the edge along this trail beneath a small rocky ledge. This trail went down a rather steep bank where it exhibited claw marks of some mammal. There was none on the ^{moist} ground except where the claws had scratched it bare. The forest here was thick with many low branches and a heavy low (^{at base}) canopy which gave the appearance of a very long, low thicket rather than forest for there were actually only a few large scattered trees. The branches and all the lower limbs as well as the ground was covered with moss and its associated plants.

Sept 12 2 km. NE Wilhelmina-top, Netherlands New Guinea, 3560 m.

1 in 20 stick traps. The individual was taken in a small running stream two patches of sub-alpine forest on a hill ^{side} west of camp. The inter space was vegetated with a few ^{low} bushy shrubs, scattered grasses and herbaceous plants. Small runways as well as the best was taken in a quite common about the border of the forest. ~~at~~ in the edge. With this as it be found numerous rootings, where it was the moss and low growing vegetation has been chewed or rootings as if the animal was in search for terrestrial insects. There were also holes in the ground 4-7 inches deep and 2 1/2"-4" diameter which are presumably made by this animal. There was nothing in the stomach.

Sept 15 2 km. NE Wilhelmina-top, Netherlands New Guinea 3560 m

1 in 151 rat traps. Individual caught in traps

set in a runway through a dense grass thicket between (2ft) small patches of soft bark and mossy forest.

Sept 16 2 km. NE Wilhelmshöhe, Netherlands New Guinea 3560 m.

1 in 20 stake traps. The specimen was brought in by collectors. They said it was taken in a trap set along the ridge NE of camp. To the far side is a patch of sub-alpine forest coming up to the divide and to the near side is grassland. It was in a trail through where the grassland meets the forest that the animal was caught. The ridge is about 3800 m. high. One mammary gland was much enlarged indicating that it has recently been suckling young.

Sept 21 2 km. E Mt. Wilhelm, Netherlands New Guinea 3950 m?

1 in 404 traps. Specimen was taken upon or in a small saddle on the mountain slope south of camp. Here there was a heavy growth of broad grass (and other vegetation) forming a mat over the old lime stone tethers. Also there were occasional rocks protruding above the grass and scattered *Coprosma* bushes. *Homomys* signs (diggings) are seen about the hill slopes where there is a heavy vegetation of grasses.

Sept 22 2 km. E Mt. Wilhelm, Netherlands New Guinea 3850 m.

1 in 104 traps. The individual was brought in by collectors who said it was taken in stake traps set in a large runway through the lower end of a steep tethers slope where they had accumulated large boulders which have through time been partly overgrown with large bark, moss and herbaceous plants.

Peroryctes

Sept 27 2 km E Mt. Wilhelm, Netherlands New Guinea 3900m
1 in 104 traps. Brought in by collectors. Taken
in region similar to that described in Sept 22 note.

Oct 14 9 km NE Lake Habbema, Netherlands New Guinea, 2800m.
1 in ~~104~~⁵⁷ traps. Taken in runway beneath a
mass covered by litter of the mossy forest. The runways
of the animal are quite common although up to
late I have only taken one individual. This is
the animal that the natives eat when dead falls
for.

Oct 29 9 km NE Lake Habbema, Netherlands New Guinea 2800m.
1 brought in by natives. It was an old specimen
which quite possibly was brought in from some
distance probably below.

Nov 1 9 km NE Lake Habbema, Netherlands New Guinea 2800m.
1 brought in by natives. Probably says from
below 2300m ±.

Nov 12 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200m.
2 brought in by natives.

Nov 13 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200m.
1 brought in by natives.

Nov 14 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200m.
2 brought in by natives.

Nov 15 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200m.
4 brought in by natives. The legs of the ♀
had 1 punctured mammary gland.

Nov 16 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200m.
3 brought in by natives.

Nov 17 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200m.
1 brought in by natives

Nov 18 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives.

Nov 20 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 21 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 22 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 23 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 24 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
7: 6 brought in by natives. 1 in 206 net
traps. Individual taken in running ~~then~~ over the
leafy ^{thick} surface of the open ~~savanna~~ forest.

Nov 25 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov 26 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov 27 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives. Yesterday
while trading traps ~~the~~ a native showed me
what he said was a nest or rook of one
of these animals. It consisted of a hole in
the earth ⁴⁻⁵ in in diameter and at an angle
leading ^{down} to the base of a small tree. It went in for at
least 3 ft and then I believe joined other well known
burrows. The entrance was plugged with moss
some six inches in length.

Nov 28 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Perognathus

Nov 29 Belt P. 18 km N Lake Kallawa, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 30 Belt P. 18 km N Lake Kallawa, Netherlands New Guinea 2200 m.
4 brought in by natives. The parent of the nest opens persistently. It is a small nest, just enough to contain the young with little room to spare. It is not the large sack like parent of the *Phalacrocorax*. If no young is present the parent seems to retreat until there is little remaining other than a small anterior flap, ^(small) which leaves the entrance exposed.

Dec 2 Belt P. 18 km N Lake Kallawa, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec 3 Belt P. 18 km N Lake Kallawa, Netherlands New Guinea 2200 m.
4 brought in by natives.

Jan 11 15 km SW Bantad Camp, Imling P. Netherlands New Guinea 1800 m.
1 in 28 stub traps. Trap set in runway beneath a spreading nest system of several large trees. The large nests at the base which had at one time spread out over the earth surface were now undermined leaving many runs and runways the upper surface being covered with litter and supported by roots. There are frequent exits and entrances and it was at one of these that the animal was taken. The entrance enlarged but there was no sign of young.

Jan 14 1 in 28 stub traps. Brought in by collector. Taken in large ^{nest} ~~surface~~ runway in mossy forest.

Jan 19 2 in 28 stub traps. Taken in runway beneath a fallen log. Mossy forest. The juvenile ^{placed in parent's nest} was not attached to the bit along the ♀ was above. There were 4 tubs only 1 of which was functional. The parent has rather a large opening, that is large enough to easily extract the young. It opens ^{most likely} from a pouch which measured about 50 m.m. in depth. 25 mm

these animals are caught without young there is no evidence of a pouch but only a slight dyspneum containing the tits and the modified skin.

Jan 21 15 km SW Bernardo Camp Iquitos R. Altohondo New Guinea 1800 m.

1 in 22.9 net traps. Brought in by collector. The pouch area is present measuring 7×5 mm. The 4 tits at within this area are very small, little more raised on the skin. There is a slight tendency toward the formation of a pouch. The anterior edge of the pouch there is a small fold about $\frac{1}{2}$ mm which extends backward for about $\frac{1}{2}$ the distance of the pouch area.

Jan 22 1 in 2.9 stub traps. Brought in by collector.

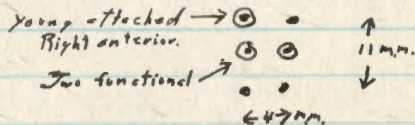
Jan 24 1 in 2.8 stub traps. Brought in by collector. The adult ♀ had in its pouch a juvenile. The most immature young of a marsupial that I have yet seen. The strange thing to me is that the pouch was large, very large for such a small beast. I had previously thought that the pouch of marsupials tended to enlarge ^{or grow} from the time of the birth of the young and at all times it was ~~not~~ ^{at all times} little more than large enough to hold the young. This however is apparently not the case with this marsupial for both the pouch and the opening there to were very large. This would be seemingly necessary for the young during its early stages of pouch development. Perhaps this large pouch + young is to facilitate the young finding its way to the tip. The pouch ^{oval in shape} ~~unretracted~~ measured ^{60 mm} ~~28~~ long \times 40 mm wide. The posterior opening to the pouch measured unretracted 25 mm ^{long} \times 15 mm broad. The distance between the vagina (closed) and the lip of the pouch measured 11 mm. The arrangement of the tits and this approximate distance from each other is shown in diagram to left. The young ^{young attached} was firmly attached to one of the 2 functional tits. • • • • • - Functional but no young

Peromyscus

Jan 28 1.5 Km SW Bernhard Camp Idarburg R. Northlake New Guinea 1800 m.

1 in 17 stick traps. Taken in runway beneath a log. The runway of these animals deep is much as possible under cover of log, roots, or lth. This beast was in the same traps as that one taken on Jan 26.

Jan 29 2 (1 juv.) in 17 stick traps. Taken in runway beneath fallen log. This female like the one taken on Jan 26 had a young in its pouch. Here however the young was slightly larger (can be seen in specimen). The opening of the pouch seems to be little more than a longitudinal slit rather than the oval opening as indicated on specimen of Jan 26. Length of this slit-like opening of pouch 27 mm. Distance of pouch from vagina 12 mm. Distance from vagina to slit to which young is attached 33 mm. Pouch measured 60 mm long by 43 mm broad. The following is a diagram of tits



It is of interest to note that the young in this case as in the one of Jan 26 was attached to the anterior right tit, and that the middle left tit was in each case functional. With this specimen the middle right tit also functional. These two unused functional tits however are smaller than the one to which the young is attached showing degeneration toward the non-functional ones made on the diagram as black dots.

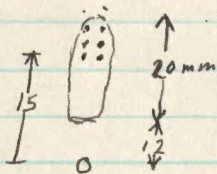
Jan 30 1 in 17 stick traps. Taken in large runway through the open forest. It apparently a beast, unlike the smaller sp. which inhabits the open less lth areas of the forest. The larger legs, longer hindlegs, shorter claws, shorter tail, finer textured hair, the lack of dorsal or hip stripes are all external characters which separate from the smaller species.

Feb 2 1.8 Km SW Bernhard Camp Idarburg R. Northlake New Guinea 2150 m.

2 in 17 stick traps. Brought in by collectors who said they were taken in runway beneath fallen logs.

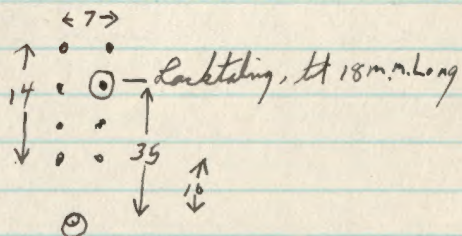
- Feb 3 13 km SW Berland Camp, Idenburg R. Netherlands New Guinea 2150 m.
 1 in 17 stick traps. Taken in ^{open} ~~an~~ runway
 over the forest floor. Habitat was that of mossy
 forest and bamboo. The latter apparently
 attributing to the increase in mossy conditions.
 This species is apparently - thing of the
 open forest (terrestrial) rather than a forest
 nesting cover of logs etc. as the dark-striped
 species found in this same area.
- Feb 5 1 in 27 stick traps. Brought in by collector.
 Habitat Mossy forest with bamboo undergrowth.

Feb 14 6 km SW Berland Camp Idenburg River, Netherlands New Guinea 1200 m.
 3 (1 juv.) 27 stick and 234 rat traps. - The
 large ♀ with juveniles brought in by collector. He
 said female alive in trap and a distance of
 about 1 yd was the young still alive and moving
 feebly. The smaller ♀ taken in rat trap
 within an open forest runway. That is there
 was no cover such as log or lily but rather
 it was a trail through the undergrowth
 and rotten over the forest floor.
 Following is diagram of the pouch.



#7498

The posterior pair of teats (8 in all) were
 concealed by a 7 mm flap of skin extending
 posteriorly. No sign of lactation or emb.



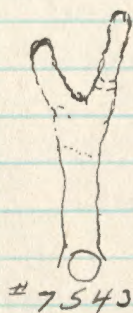
#7499

The total length of the pouch
 was 168 mm long with
 apparently room enough to
 contain the young. Only 1 of
 the 8 lactating. The
 opening of the pouch, a small
 slit measured 25 mm but
 could be stretched to 50 mm.

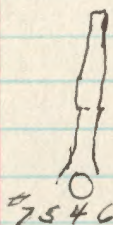
Peroryctes

Feb. 21 C. K. SW Bernhard Camp Idenburg R., Netherlands New Guinea, 1200 m.
1 in 105 snaws. Brought in by collectors. Stomach contained the remains of insects and grubs, as well as what appeared to be ant eggs.

Feb. 25 2 in 134 - snaws - 1 brought in by collectors. The other #7543 I examined when in traps. Taken in snaw set along small runway over leafy floor through low undergrowth on a ridge top. Habitat being undergrowth and open canopy of large forest trees. Note. These 2 different species as far as I can determine inhabit much the same area, are much the same size and appearance. #7543 has a bipide penis measuring 30 mm. with the fork at 12 mm.



#7543



#7546

On the other hand #7546 has the normal penis that is single. (see drawings) measuring 23 mm. in length. The stomach of #7543 was empty while that of #7546 contained the remains of material which appeared to be insects or other small invertebrate life.

Note Information Dated Feb 25 and under This bracket goes under heading of Phascogale.

Mar. 1 1 in 17 steel traps. Brought in by collectors. Insects in stomach. Testes small apparently not an adult.

Mar. 2 1 in 182 snaws. Brought in by collector. Taken on ridge top about same level as camp. Notes on pouch etc. No young. Opening to pouch a broad slit 25 mm. in length. Posterior lip of pouch 15 mm. from vagina. Posterior testis 30 mm. from vagina. 6 mammae were lactating, three slightly enlarged (an diagram). Length of ^{slightly} enlarged testis 6 mm. and not enlarged in 2 mm. The pouch is 60 x 30 mm.

The stomach contained the remains of insect, annelids, and such organic material.

Mar. 4 6 km. SW Burnland Camp Idenburg R. Netherlands New Guinea 1200 m.

2 in 209 snares. Brought in by collecting boys. These two, 1 an adult ♀ and the other its young, were taken on ridges in open forest above camp level. According to the collector the adult was dead in the trap and the young waiting near by. At approach of collector the young attempted escape and was shot. Pouch opening 40×30 mm. Posterior lip of pouch to vagina 15 mm. Lip of pouch to ^{single} enlarged mammae 30 mm. Posterior right tit + mammae only enlarged. Other 5 small. Length of enlarged tit 25 mm. Non-enlarged tit, vary in length from 1 to 3 mm. The pouch opening can be expanded to a circular opening with diameter 55 mm. Pouch, inside dimensions, 115×70 mm. It can be stretched to exceed these measurements. Stomach empty.

Mar. 5 1 in 29 stub traps. Brought in by collector.

Mar. 8 4 km. SW Burnland Camp Idenburg R. Netherlands New Guinea 850 m.

1 in 87 snares. - Brought in by collector. ♀ with juvenile. Pouch 35 mm. long. Posterior lip of pouch to vagina 15 mm. Of the 8 mammae the right anterior being the only functional one. Length of tit row is 12 mm. From posterior tit to lip of pouch 23 mm. Pouch measures 103×50 mm. Stomach contained remains of invertebrates.

Mar. 9 2 in 27 stubs + 141 snares. - One brought in by collector the other taken in ^{forest} trail through open undergrowth of secondary forest.

Mar. 9 4 km. SW Burnland Camp Idenburg R. Netherlands New Guinea 1200 m.

2 in 231 snares x 2. Brought in by collectors. Said to have been taken in forest floor trails.

Peroryctes

Mar. 11 4 km. SW Bundard Camp Idhuwung R. Netherlands New Guinea 850 m.

1 in 266 snare. Brought in by collectors.
Pouch enlarged but no young. No emb. Stomach
contained 19 arthropods, 1 cricket, 3 centipedes, 1 pterodermis seed.
There were more earthworms in stomach than seen to be
seen probably due to the wet evening bringing the
invertebrates out. Previously I have also seen Pterodermis
seeds in stomach but failed to make a note of
it because unable to tell whether taken in stomach
while animal was in trap or later. This animal
however was caught about noon with snare and consequently
had no opportunity to consume foreign material
while caught.

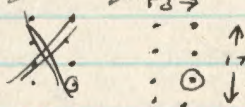
Mar. 15 3 in 442 snare. Brought in by collectors. Stomach
contained insect remains, arthropods, and pterodermis seeds.
Stomach walls of this species frequently have large (1 x 1 mm)
cysts containing round worms. Penis is longitudinally
folded for 1/4 its length.

Mar. 16 1 in 27 stub traps. Brought in by collector.

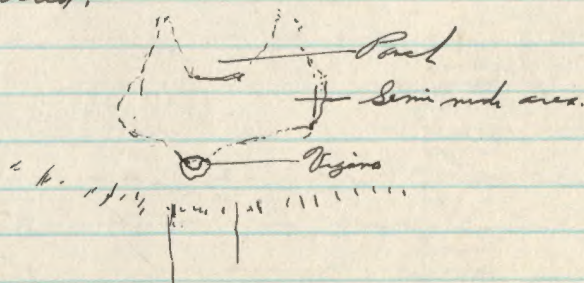
Mar. 17 1 in 573 snare. " " " "

Mar. 18 1 in 598 snare Brought in by collectors.

One of the eight mammary glands lactating but
no young in pouch.

687

 Lip of pouch to vagina 14 mm.
 Length of pouch opening 38
 Lip of pouch to lactating mammary gland 25.
 Size of pouch 68 x 40

It should be noted that there is an absence or rather
a very fine hair in the area between the vagina
and the pouch. The pouch itself is very finely
haired.



Mar. 22 4 Km. SW Bumbard Camp Idenburg R. Netherlands New Guinea 850 m.

(1 juv.)
2, 742

same. Taken on low ridge above shed place. Forest rather open with moderately thick undergrowth and leafy forest floor.

The adult ♀ #7708 has in pouch a living young #7709. Following are notes on the activities of this young. When not disturbed & the young remains relatively inactive in the dead mother's pouch. The only movements seen are those of a regular (1/2 sec) respiration. Very occasionally there is a movement in the shoulder region.

The first young is in a curled up position with its posterior toward head of mother and the young itself faces the pouch opening. When the longitudinal pouch opening is opened the young draws away apparently stimulating a negative reaction toward open pouch. This activity is a definite pushing away with the front and hind feet from the opening. The second young which has not been subject to open pouch for the past 5 min has worked its way to a cross wise position in the pouch so that head is under one of the lateral lips and wings under the other.

Now it is in a quiet resting position and in apparent darkness as far as eyes (unopened) are concerned. Mother turned on side closing the pouch again. The young read reorients its self with head toward pouch opening and become quiet again. For the past 10 min remained quiet except for occasional squirming. Pouch is never opened by young during this squirming. Reopened pouch. Young pushing away from opening. Finally detached itself from tit during struggle. No effort made to regain tit nor within series.

Young removed from pouch. Definitely has a sense of equilibrium. Attempts are made to get on its feet and when this is accomplished after much effort it proceeds with a very sprawling sort of a walk. Spends a good deal of its time

Peroryztes

on its side squirming and kicking. The front feet ~~are~~ moving alternately and the hind feet ~~are~~ ^{move} ~~together~~ ^{one} being slightly ahead of the other. When placed near the pouch it makes no effort to enter but continues its aimless squirming. It has been out of the pouch now for about 10 min and its activities are lessening. Seem to be content to lie still with periodical squirms. Touch seems to stimulate it to reaction. It is now uttering very soft squeaks as it squirms about. Note should be made of the fact that when the dead mother was removed from the area the young was squirming outside of the pouch but it still retained hold of the tit. Measurements of pouch are as follows -
 Vagina to posterior tip of pouch 10 mm
 Pouch opening 35 mm.
 Posterior tip of pouch to posterior tit 15
 Tit row 13

⊙ ⊙ The posterior pair are very small and
 ⊙ ⊙ apparently ^{permanently} non functional. Only 1, the upper left,
 ⊙ ⊙ to which young is attached in lactating.

Internal measurement of pouch 10.5 x 6.0.

Mar. 24 4 Km. SW Burnland Camp, Keabung River, Netherlands New Guinea 850m.

1 in 812 snaws. Brought in by collectors.

Mar. 28 1 in 845 snaws. Brought in by collectors.

Mar. 30 1 in ~~870~~ ^{27 shell types} snaws. Brought in by collectors.

There is a seemingly ochreous tinge to color of this host. Perhaps it is a part of juvenile coloration.

Apr. 1 2 in 987 snaws. Brought in by collector.

Stomachs contained insect remains and Pandanus fruit.

Apr. 2 2 (1 juv.) in 987 snaws. Both specimens in alcohol.

Brought in by collector.

Apr. 3 3 (1 juv.) in 987 snaws. Brought in by collectors.

7790 measurements of pouch are.

Posterior tip of pouch to vagina 15 mm.

Length of pouch opening. 33

Position lip of pouch to posterior tit 25

Dimensions of pouch 65 x 45

Length of tit row 12

Breadth of " " 6

Tits ^(4 each) are sub equal in size varying in length from 2 to 7 mm.

Measurement of pouch area of specimen 7795 as follows —

Position lip of pouch to vagina 12

Position lip of pouch to posterior tit row. 23.

Length of pouch opening 33.

Dimensions of pouch 80 x 20

Length of tit row 15.

Breadth of tit row 6.

I believe after looking at many ♀s of this sp. that the posterior pair of tits are never functional. They are always smaller than others.

Diagram of tits. ① marks functional one.

②
③
④

Apr. 15 Bernhard Camp Idenburg R. Netherlands New Guinea 25 m.

1 in 27 steel traps. Brought in by collector.

Taken on lower mountain slopes above flood plain.

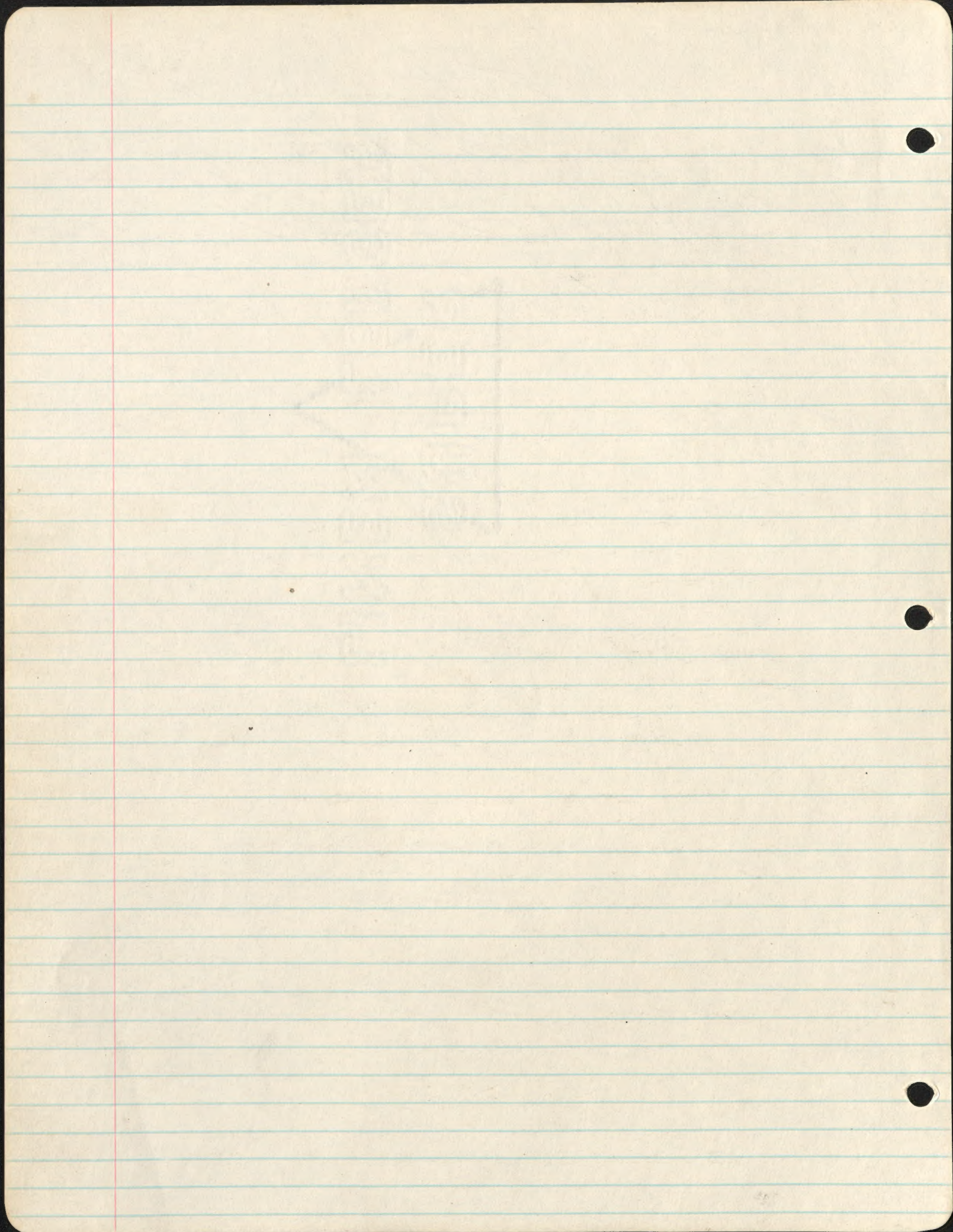
Stomach contained remains of insects.

Wm B. Richardson
1938

Petaurus

July 14 4 km NE Dojo, Netherlands New Guinea. 200 m.

Day before yesterday an adult or ^{one of} ~~and~~
two juveniles were brought to Hollandia
by M. Chelis. The natives had caught
~~it~~ ^{them} ~~in~~ in the vicinity of his home
near Sentani Lake.



Wm B. Richardson
1938

Phalanger

May 21 Hollandia, Netherlands New Guinea

Today a young Papuan boy brought in a tame young 'cuscus'. His campsite is Tabati but according to him he had caught it ~~at~~ on the main road across from the island of P. Hamadi in Humboldt Bay. The native name for the coast along where the ~~bad~~ animal was captured is O or AW (as in saw). Roughly speaking it was taken about $2\frac{1}{2}$ miles south of Hollandia. The phalanger was quite young, I would say about $\frac{1}{4}$ grown judging from the capillae and fangs. According to the boy it had been in his possession for one week. Even at this young age it grinded a liquid with a musty odor not unlike the weasels of North America. This odor was not noticed until the animal was being killed and within half an hour it had completely disappeared as far as my ^{sense of} smell was concerned. The urine came in a small stream with moderate pressure. The scats were dark green in color, size 50 mm. long and 5 mm. thick with tapering stringy ends.

June 1 Hollandia, Netherlands New Guinea

Two Phalangers were brought in for sale today, the price asked 5.50 \$, and the price paid 2.70. According to the two Papuans that brought them in for sale, they were captured near Stiebiera, ^(#25) residents on the mainland south of Engros, Engros being located 6 kilometers south of Hollandia at the mouth of Janlepa Bay in Humboldt Bay. Tomorrow I will try to find out more about this locality. These two Phalangers, No 1[#] and No 2[#] are to be kept alive for study.

Number 1[#] is apparently a sub-adult with a pronounced black stripe down his back. Number 2[#] is a juvenile maculating with light brown spots on a dirty white background. The food provided by the Papuans for these animals during transportation was the orange fruit

of the Pardalipus. According to the Papuans they would also eat papaya, pisang, and the meat of coconuts. Their taste for coconuts may account for their name, among the white people (Mills) of Klapa rats. According to the Papuans these two were taken in the jungle, not on the mountains. The local names for these are as follows:

	1 st	2 nd
Malay	Kusu	Kusu
Tobadi	Em	Em
Engros	"	Em
Sentani	Wahe	Onen

The different sexes may change the name applied to the animal known in the case (Tobadi) it was not so ♂ Tanti and ♀ Moea. I forget to mention that these two beasts were said to have been caught one day ago (May 31). It is very difficult to find out where and how these animals are caught. It is difficult to make myself understood and coupled with that is the fact that the Papuans are more interested in making the sale than giving information to scientists. I am under the impression that they will tell you anything to suit the purchaser's likes. Anything for the sale.

On the night of June 1, Thalopus #2 escaped by crawling through the cotton burlings of its cage. I have good observations since then on Sn #1. Dr. Rand and myself are of the opinion that it is not well and its actions cannot be considered normal regardless of the cage. It is slow escaping. Its movements are never more than a few steps at a time. Its posture is a semi coil upright on which the degree of which varies with the activity. When walking it tends to run coil but this is well pronounced

June 3

Phalanger

leaps in the bush, when asleep it is coiled closely with the head held slightly to one side, when disturbed it remains motionless in a prone hunched position with its head upright but close to the ground. The tail is never held in regular but rather seems to be semi-coiled dorsally but allowed to be held in any position. The feet are always beneath the animal and close together often resting on or on a part of the tail. The food up to late has been one small *Canne* which was eaten during the day of the second of June and finished with the exception of about 1/2 cup of seeds full during that night. The next day, today, it was given a little larger piece, 1 1/2 cups of Papaya including the seeds. It has fed on this intermittently all day a few bits at a time, about 3/4 of it still remains. I have been unable to tell whether it seeds or not have been eaten. The process of eating is a scraping off of the papaya with the lower incisors. So to this the head is pushed forward in a relatively slow rhythm with a fixed upward look.

June 4

The Phalanger (1st) died last night. It was probably the result of exposure and mal-treatment. Prepared the skin this morning No. - A 4001

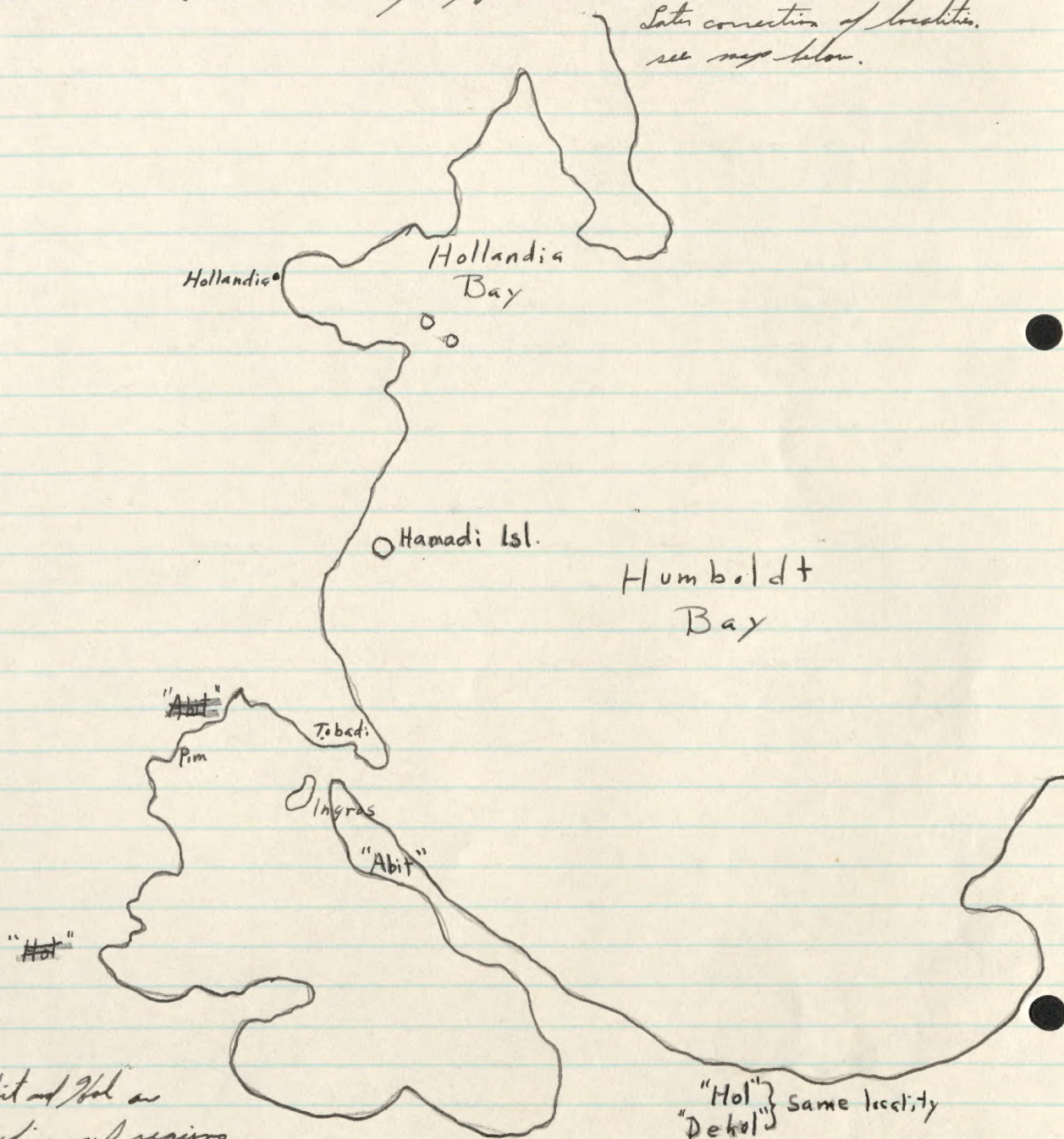
June 7

Gallardia, Netherlands New Guinea

Two cranes were brought in today by the natives. Price 2.50 guilders. The first (No 1st) is a [large] ♂ partial albino, lacking the pink eyes. The other (No 2nd) is a spotted bird in the colors tan, brown, and gray. It is tailless so I cut off the dried hanging

end of the beast soon after I received it.
 [No. 1st 2nd was ~~was~~ according to the Pigeon
 collectors caught yesterday in "Abit" Utang
 about $1\frac{1}{2}$ Km west of Tobadi or 5 Km south
 of Hollandia; the other 2nd was caught
 when young and kept for $100 \pm$ days by
 the Pigeons. It was originally taken,
 according to them in "Hol" Utang which
 is located 4 Km south west of Tobadi or
 8 Km. south south west of Hollandia, (See map).]

Later correction of locality.
 see map below.



Note: Abit and Hol are
 names of jungle regions,
 while Tobadi and Ingras are villages.

"Hol" } Same locality
 "Detol" }

Chalanger

adult Phalanger with its 1 young. It is housed at present in the same cage with the other two. [Young #4010] [Adult 4115]

The food of these beasts up to late has included Bananas, coconuts (young & mature), Pandanus, tomatoes, geroka, jumbo. The tomatoes are not cared for. I have seen only one animal pick one up and bite into it. Mature coconut meat is also been eaten only in moderation today when there was no other food in the cage. Bananas are relished. The inner lining seeming to be preferred, although, the entire fruit is consumed. Young coconuts are eaten meat, inner shell and some of the inner pith. Geroka are also a very acceptable food for these beasts.

The adult ♀ is in color a light brown or dark tan in color with the upper surface being of a dirtier color than the rest of the body. The color of the young is a grizzled, gray all over. On side of the pen on one side of the upper chamber is worn off due possibly to its caged condition.

The locality from where they come according to the Agave collector is from Otang (Forest) "Dehol." It was from this same forest that one of the previous animals were taken. (See map on previous page. (22))

June 11 Hollandia, New Guinea

Notes on captive (4) Phalanger. - In addition to the food as listed on June 9. The Cuscus have eaten portion of a melon which is some what like our water melon but smaller and with greenish, white and like pink flesh. The seeds are apparently rejected. They have also eaten part of a long banana like vegetable. Bananas still seem to be the preferred food. One of the smaller animals (the partial albino) according to an Malay cooks ate two this afternoon. The activities of the mother and

Phalanger

young are very interesting. They seem to have a real motherly attitude towards the young, constantly eyeing its (young's) activities and reacting accordingly. When moving care is taken not to tread on stuff the young and to give it advantages of the pouch or itself for security. When in motion (the adult) the young often clings to the back, or sides of the body. At times the young is carried in the pouch or ~~is~~ rather partially in, usually the head and fore shoulders. The other evening I saw it completely in the pouch with the exception of the hind legs. This evening while observing the mother spent ten to fifteen minutes licking or grooming the young, with an occasional lick for itself! Most of the young's body was gone over by its mother today, the young all the while paying little or no attention to the adult's efforts.

June 14 Hollandia, Netherlands New Guinea.

This evening I purchased another quora which judging from size is a sub adult. The purchase price was .90¢, the price asked was 1.50 guilden. I hope that the reduction in price will not discourage their collecting. According to the natives it was collected recently in "Ulong (Island), Soko Yambi." [Near Soko (Is.?)]

June 15 Hollandia, Netherlands New Guinea.

This morning I found the young (purchased June 9) dead in the cage. It had been less active during the past few days and had a very thin appearance so I was not surprised by its death. No 4010. The other two half grown young, the albino and half-bred animals, have taken the place of the young. I have seen them both suckling the adult pouch and apparently satisfied then do as they please, even mothering

then much the same as she did her own young

June 16 Hollandia, New Guinea.

The Chalanger brought in on June 14, 1938, by natives, died last night as the result of a severe wound in the shoulder received during its capture. (P4012)

June 18 Hollandia, Netherlands New Guinea.

This morning I purchased (2.00) an adult ♂ Chalanger. This afternoon it was turned loose in the cage containing the adult ♀ and the other two sub-adults. When first liberated the male explored the cage as if looking for an escape. His exploration took about two hours, after which time he has been persistent in attempting copulation with the female. During the attempts at copulation the male approaches from the rear over the female clinging to the ^{backing area} ~~fur~~ ^{about} the mid waist. With the hind feet it attempts to turn the female on its side. During this process the ♂ licks the female and several times he ~~rips~~ ^{rips} in the back.

At the present time 4:05 he is crouched in front of the female, who is sitting up, licking her pouch and probably her genitalia although the latter cannot be seen. The licking has been going on for the past 20 minutes. 4:07 The two animals are coiled up side by side in complete repose, the only difference from their usual day time sleeping posture is that their eyes are open. This posture is an upright coil sitting on their tail and with the head on the same. Their nose is held within an inch or less of the floor and with a tendency for them to hold it in toward their belly. During the day they remain in this posture for long periods of time.

Observations on climbing - The tail is apparently used primarily only when it is going down or when it is bridging a short gap. The tail has its greatest function on the down hill grade as

Phalanger

when descending from the bar in its cage down the center upright. In this case the tail is used prehensily until the foot (4) has reached the floor then the hold with the tail is released. When ascending the sides of the cage on the upright pole within the tail is ~~used~~ used as sort of a brace, that is it functions in much the same way that the tail of a wood pecker does. It is course to assume a firm grip (not coiled). In pushing outwards, that is away from the object climbed it allows the claws to step held, gives a seven grips (with claw), and keeps the body away from the object climbed. The tail during the upward climb is not coiled but rather is extended behind. When the animal is sitting or walking along the ~~upright~~ horizontal bar the tail is coiled about two complete turns so that the ~~furled~~ furled portion reaches the dorsal part of the coil. When walking on the floor the tail is either held up or behind in a semi coiled position or coiled up under the belly so as to protect the genitalia. The feet - The front feet has five claws the first two of which are used especially to the other three. This is quite apparent when the animal is climbing either up or down. When going up the animal depends upon the 3, 4, and 5 principally and the other two functioning prehensily when possible. When going down "11" the 1st and 2nd are used to hold the animal back and when possible they are used prehensily against the other three. The hind ~~two~~ feet has four clawed digits and an operable thumb. This thumb is used only prehensily when crawling along a surface which is graspable, most of the time however it is functionless, the animal depending upon the long strong claws to ~~grasp~~ catch on to the rough surface upon which it is crawling. When crawling up the wire screen

on the cage the animal does not depend upon the thumb but rather upon the claws. The thumb can be removed from its anchorage, if it has one, without disturbing the animal. However when the claws of the hind foot are removed from its hold on the ^{wire} screen it either seeks a new locality to put the foot on else intensifying the grasp in the same locality or rather spot.

June 19 Hollandia Netherlands New Guinea

Further observations on the caged animals - Late yesterday evening the sub-adult albino male spent about $1\frac{1}{2}$ hours in the process of preening. The most interesting part of which was the use of 2nd and 3 digits of the hind foot, which are used, for combing its tail. The two claws of the fourth digit were rapidly run through the fur in short strokes in much the same manner as a dog scratches flus. The Phalange however is more rigid being able to reach most parts of the body with one or other of its feet. These spots that it cannot reach are excruciating to the point of being which are used in the manner of a rake with short jerks. A thing that is constant and apparent is the licking of the claws every two to five seconds of preening. This is apparently to remove hair from the claws and is done in the same periodicity with both front and hind feet. ^{via} The hind foot the claws of the fourth digit receive most of the licking while in the ^{front} ~~xxx~~ feet all claws receive equal attention.

June 20 Hollandia, Netherlands New Guinea

Hard observed the two adult caged animals attempting copulation this afternoon. Due to this insects were spent on observation during which time no contact was made.

Phalanger

June 21 Hollandia, Netherlands New Guinea.

One partially prepared skin was bought in today by a Iobato Papuan. It was purchased for 1.00 guilder. #4050.

Additional notes on caged animals - The adult female was seen on two different occasions to groom by combing its fur with the two claws on the fused digit. After an interval of 4 or 5 seconds the claws are locked and the animal resumes grooming. It was done in the same manner as previously observed grooming habits of the young & adults. The adult made a rather weak attempt at ~~grooming~~ copulation but failed. The female does not seem to be in a receptive mood.

June 23 Hollandia, Netherlands New Guinea.

Purchased (2.50 guilder) an adult ♀ and young from a Iobato Papuan. According to him he had taken it in the forest "Ulong Iobato" south of Iobato. The thing that impressed me was that the young was firmly attached to the tit of the female. A pull of 5 lbs ± did not even dislodge it. Only 1 of the 4 mammary glands was functional and this the one that the young was attached to. #4051 adult ♀ 4052 juvenile of the adult.

June 24 Hollandia, Netherlands New Guinea.

Purchased another adult ♀ and young for the standard price of 2.50 guilder. It was taken by natives from "Sko" in utang "Tojo mo ko" at an off the hill west of "Cuyu batu". They had shot the beast with an arrow. #4081; juv. #4082.

July 4 Hollandia, Netherlands New Guinea.

Yesterday morning purchased another adult ♂ for 2.50. It was taken by a Iobato boy from the jungle near Uave (Innan) Bay. #4113. One of the caged animals, adult ♀, was skinned. It had been sickly for the past week and today it was completely

off its feet so I thought best that it be prepared as a specimen. This ♀ was brought in to me on June 9 by natives. (See previous notes)

July 6 4 km. NE Dojo, Netherlands New Guinea

An adult male of a species new to me was sent in by Mr. Ebeli. According to the note accompanying the animal it was taken on the Cyclops Mts., 600 M. The hill coast boy that brought it in said it was taken near "Doyo". I shall attempt to find out more about the exact locality of capture. It is a strange looking beast with short heavy set hind limbs, long body, and thick heavy shoulders and neck. It was somewhat cat-like in appearance.

July 9 Hollandia, Netherlands New Guinea.

Adult ♀ was shot the morning by one of Rardi Dyaks collectors. According to the Dyaks quarters it was taken west of Hollandia (1/2 - 2 km) in the jungle (high rain forest). The young in its pouch is preserved.

July 13 Hollandia, Netherlands New Guinea.

A sub adult was brought in last evening by a hill boy. It was still squealing on the end of an arrow so I judge from that that it was taken in the neighboring vicinity.

July 13 Hollandia, Netherlands New Guinea 4 km. NE Dojo, New Guinea.

The living gray *Phalanger* brought in July 7 from Mr. Ebeli died last night. It was taken near Dojo, Senterik Loh on in the Cyclops area.

July 14 Hollandia, Netherlands New Guinea

Prepared one specimen that was taken last evening by local natives. The animal was

Challenges

was captured while crossing the road south of the Chinese store here in town.

Two live specimens were brought from Agass today by Santani Papuans.

July 15 Hallanda, Netherlands New Guinea.

The two crabs prepared today have been in captivity for a short time. #4391 ♀ was brought in by a native from Agass, Santani Lake, the other was taken by a local Papuan from Isobati (vicinity of).

July 16 Hallanda, Netherlands New Guinea.

Oct 25 9 am. NE Lake Habbema, Netherlands New Guinea 2860 m.

1 individual brought in by a native for which I paid 2 shells. This was a mark on its foot which appeared to be made by a trap but there was no certain evidence of this. Later however the collectors brought in the trap which had undoubtedly taken the beast. The pouch was very small which I assume to be an indication of a sub adult beast. The dung which is seen uncommonly here was at Habbema quite common. At least the same type appeared at Agass, ^{at special dung places below} lower colored routes. Few no dung heaps have been found there are scattered pieces along the colored routes here. These routes consist usually of vertical or horizontal logs from 3 to 20 ft. above the ground and varying in diameter from 2" to 2'. Usually the log is moss covered ~~and~~ over which is a fairly well defined track.

Oct 30 9 am. NE Lake Habbema, Netherlands New Guinea 2800 m.

1 brought in by natives. It had apparently ^{remained} carried for some distance or else arrived in trap so there before

being discovered. The natives apparently do not find their traps regularly and at the same time have them set.

Nov 16 Belu R., 18 km N Lake Habbema, Netherlands New Guinea, 2200 m.
1 brought in by natives.

Nov 17 Belu R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives

Nov 18 Belu R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 19 Belu R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 20 Belu R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 22 Belu R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives. There is obscure oil patch between front legs which discolors the lower parts of the white hair.

Nov 23 Belu R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in, by natives. Neither of these adults ♂s had as well defined oil patch as the ad ♂ *Pseudochinus*.

Nov 24 Belu R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives.

Nov 25 Belu R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives

Nov 27 Belu R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
4 brought in by natives.

Nov 28 Belu R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
2 brought in by natives

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8

Phalanger

Nov 29 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec 1 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Dec 2 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec 3 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Dec 4 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Jan 11 15 km S.W. Bernhard Camp Idenburg R., Netherlands New Guinea 1800 m.
1 in 29 sticky traps. Brought in by collector who said it was taken at ^{in a trap at the} base of a large tree (in the mangrove forest). It is possible that the animal was crossing from one tree to another by the path of least resistance a trail made by other mammals. Stomach contained remains of fruit and a small quantity of tender leaves.

Feb 21 6 km S.W. Bernhard Camp Idenburg River, Netherlands New Guinea 1200 m.
2 shot last night just outside of camp. The collecting boys heard the noise investigated and shot one. I sent him out to see if another one was about and the second one seen. It ran along the ground a short distance and then up a series of several trees to a large mossy limb of one of the larger trees. After a difficult time of shining its eyes it was finally shot down. Stomach contained in each case fruit and leaves of ~~unknown~~ plants. There was probably 3 ^{parts} ~~parts~~ ⁱⁿ quantity of leaf remains in the stomach and 1 ~~part~~ ^{part} fruit remains. According to the boys report this animal climbs very rapidly.

Mar 9 1 Taken in 231 snare. Brought in by collectors.

Said to have been taken on trap set on
log crossing stream. Dasyurus? etc parts
about head.


Mar. 10 4 Km SW Berndal Camp Idenburg R. Netherlands New Guinea 850 m.

1 shot yesterday evening. It was seen
about 9:30 crawling about in an abundantly
fruiting Eugenia and ~~then~~ shot. This particular
species is a common ^{second story} tree of the flood
plane. The fruit are numerous on the trees
varying in size from 1 to 2 inches through, irregular
globular. ~~fruit~~ When first seen the animal
was crawling rapidly through the tree.
A shot brought it to the ground where it
began running along a small forest trail.
It was pursued by my Dyak and caught as
it attempted climbing a small sapling. The
molt is perhaps the most interesting part of
the hunt. The pelt saw both the light and
dark gray individuals which I have previously
taken.

Mar. 17 Berndal Camp Idenburg R. Netherlands New Guinea 60 m.

1 sent to upper camp by van Arden. He reports
it is taken by ~~soldiers~~ natives. No measurements.

Mar. 19 4 Km SW Berndal Camp Idenburg R. Netherlands New Guinea 850 m.

1 in 598 snare. - Brought in by collector.
Full stomach, remains of fruit only. Dorsal 30 x 9 
uniform in size within 4 mm length and 1 mm thick.
Apparently deposited singly. ~~Sh~~

Mar. 20 Today saw the snare in which the beast was
taken, a forest floor runway through the dense
second growths of the flood plain.

Mar. 23

2: 1 shot yesterday evening by my collecting boy.
the other in 769 snare. Both taken above the
flood plane in open forest with a moderately
thick second story. The one shot was seen
in a fruit tree. Stomachs of both contained
fruit remains and a small amount of green material.

Phalanger

Mar. 24 4 Km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.

1 in 812 snare - Brought in by collector.

Pouch opening and 1 mammary gland functional appearing to have been suckling young.

Pouch opening is 70 mm long and 20 mm wide

Between horns of pouch opening 20 mm.

Regions of anterior portion of pouch (horns of opening) 145

Functional dist. to anterior pouch 70 mm.

Dimensions of pouch 100 x 100 mm.

4 Mammas

Breadth of tit row 35 mm.

Length of tit row 7 mm

Pouch lined with soft, thin, hair meset brown in color. Pouch hair slightly thicker about lips; throat between horns and on belly part of pouch (includes tit).

Mar. 27

1 in 832 snare. Brought in by collector.

Stomach contained remains of fruit. From size of teeth I would judge this is being a sub-adult. Interesting molt.

Apr. 1

2 (1 wk.) Shot last evening. It was seen moving

in a thicket some 20 ft above the ground. The thicket was on at the rather near the edge of the river in flood plain vegetation. No fruits were seen in the trees in which this beast was seen. On first shot the young fell to the ground. It was apparently being carried on the mother's back. The mother was taken with following shot. Following list of pouch and of adult ♀.

Pouch opening 70 x 35 mm



Posterior lip of pouch to vagina 100 mm.

Point between anterior horns of pouch to functional tit 100 mm.

Size of pouch 125^{long} x 145 mm broad.

Pouch opening can be stretched to 130 mm.

The pouch itself can be stretched so as to give the young the size of the juvenile angeli room.

I believe that there would be room for 2 such young

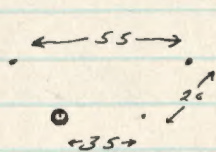


Diagram of tibia. Tib. on marked
 ♂ is functional and measures in
 length 55-35 mm. Tib. non
 functional measures 5 mm.

The activities of the young - Clinging to every
 stretch on which it could grasp with little
 sense of equilibrium. Unable to walk ^{without} effort and
 many falls. Tail and feet were used in
 maintaining position on branch.
 Stomach contains remains of fruit and green vegetation.

Apr. 15 Berndt Camp, Denbury P. Highlands New Guinea 75-80 m.

1 killed by my Dyaks while they were out
 setting traps. It was on the lower mountain slope
 above the flood plain. According to their
 story it was running on the ground and
 on being pursued it climbed a small tree to
 some 3 or 4 feet above the ground where it
 was struck with a stick and killed. Stomach
 contained remains of fruit.

Apr. 16 3 sent over from main by Rand. They
 were shot by him yesterday evening.

Apr. 22 1 shot yesterday by Rand collecting boys.

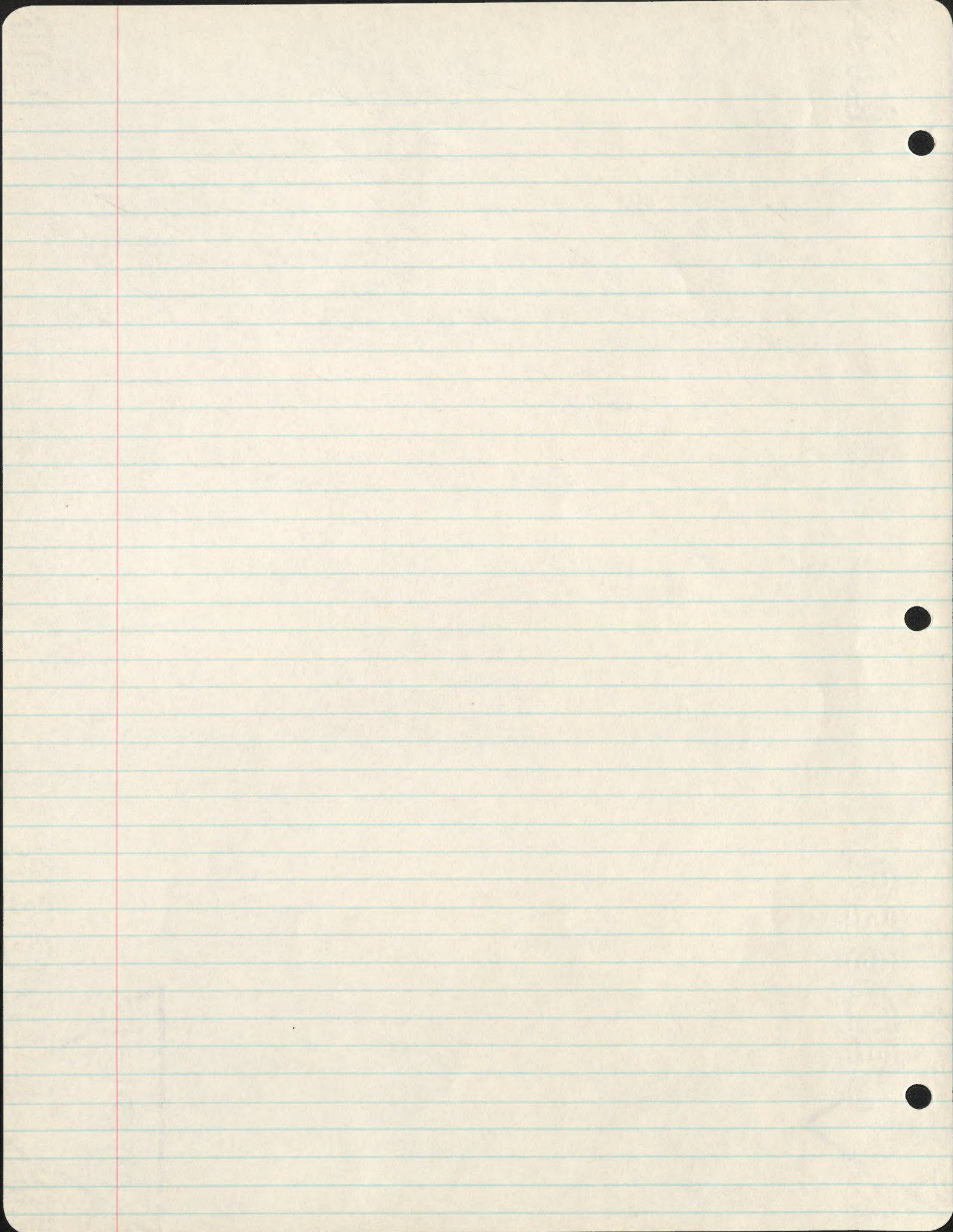
Apr. 28 3 (1 juv) shot. The small white ♀ shot
 by soldiers in forest edge of lagoon. The
 ad. ♀ with juv. were taken in tree at
 edge of inner lagoon in bend of main lagoon.
 The animal was shyly active when seen at
 clinging to the vine twisted trunk of a tree
 some 20 ft above the ground. It was
 about noon time when seen. Overcast day.

Apr. 29 1 caught in 762 snare - Brought in
 by collector. Taken on upper flood plain on lower
 mountain slopes (?).

Apr. 30 1 shot ^(1 juv.) ^{subadult} Brought in by collector. The
 other ^{subadult} shot from a small tree in
 the indicated forest edge of the
 lagoon. The other 2 adults were taken in
 forest trees in inundated area near lagoon.

Phalanger

- May 3 Bernhard Camp, Darling R., Northland Prov., Guinea 50-75 m.
2: 1 in 893 snare, 1 shot. The large gray
sp. was taken in a snare set on the ground; ~~from~~
forested slope of low mountain ridge. The maculatus
was shot from a large forest tree bordering
the lagoon. It was sitting on a small branch
some 40 ft above the water in apparently a semi-active
state.
- May 5 1 shot by Rands collecting bag. He is said
to have taken it on the hill slope
west of camp "Jow".
- May 7 2 shot: 1 by Rands boys and 1 by my collector.
Both taken near the lagoon.



Phascogale

July 31 Lake Habbema, Netherlands New Guinea 3225 m.
1 individual in the 150 traps. This animal was taken along a thinly forested *Litsea* spur. Here there is an undergrowth of *Rododendrons* about the base of which are clumps of moss. Exact habitat unknown for it was brought in by a collector.

Aug 5 Lake Habbema, Netherlands New Guinea 3225 m.
1 individual in 392 traps. This animal was taken from a trap set in a small runway through the low bushy vegetation of the northern bog slope. The immediate vegetation was not over 1 ft in height, in thin small clumps, and with an undergrowth of moss. The moss seems to grow up into these clumps forming a "lawn" clump of its own. It was in a trail between two such clumps that the animal was taken. The stomach of this animal contained vegetable matter of which appeared to be the fleshy fruits of *Gaultheria*.

Aug 7 Lake Habbema, Netherlands New Guinea 3225 m.
1 individual in 388 traps. It was taken in a trap set in a trail through the moss, in an open low bushy thicket. The moss had formed a mat over the ground and clumps about the low growing bushes. There were scattered *Litsea* trees in the vicinity. The region in which it was caught was the lower slope of the ^{low} ~~ridge~~ broad spur extending from the eastern side of the great valley stream. There are numbers of small holes 3" x 2" x 2 to 6" deep in the earth and patches of moss which have been reported in the vicinity. It is quite possible that this animal is disturbing the ground in such a manner in search of insects or other small invertebrates. The stomach contents were carefully scrutinized by Dr. Foxgum the entomologist. "Contained insect parts of *cutworm*, grubs, and *beetles*."

Aug 8 Lake Habbema, Netherlands New Guinea. 3225m.

2 specimens ^{in 386 traps} were brought in today by my collecting boys. They were taken in the mouse traps set about the northern bay shore. The stomach had 4 functional mammary glands, from which milk could be squeezed. Found in stomach ¹⁰ as well as traps were.

Aug 9 Lake Habbema, Netherlands New Guinea. 3225m.

Rond shot an individual in the mossy forest west of the bay. According to his report it was shot while climbing about the mossy trunk of a tree. It was about 3 ft. off the ground when shot. He described it as being active and apparently well suited for an arboreal habitat. It was found in the center of this forest rather than the border which I had previously expected. There were several ticks in its ears and above the base of the tail.

Aug 11 Lake Habbema, Netherlands New Guinea, 3225m.

2 individuals in 387 traps. The small species of the two was taken in a small trap set on a low, well drained open grass (10 ft) above the grass valley. Here the vegetation was in a thin low growing rhododendron bushes with grasses and moss partially covering the ground. The larger of the 2 species was taken $\frac{1}{2}$ way (200 yd) up the hill slope where the rhododendrons grow in thick clumps and there is a heavier moss completely covering the ground and in clumps about the base of bushes.

Aug 13 Lake Habbema, Netherlands New Guinea, 3225m.

1 in 375 traps. Brought in by a collector who said that it was caught in a trap set in the low brushy hill side with a ground cover of moss.

Aug 14 Lake Habbema, Netherlands New Guinea, 3225m.

1 in 375. Brought in by collector who said it was taken in much the same type of habitat as that taken on the previous day (Aug 13).

Chasococle

Aug 18 Lake Habbema, Netherlands New Guinea 3225 m.

2 in 375 traps. They were brought in by my collectors who said that one was taken in a trap set along the thick grass at a run the mouth of the outlet stream and the other in the heavy brushy hill slope above (to north of) the outlet stream.

Aug 19 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 375 traps. This animal was taken in a trap set near the central part of the strip of grass bordering the southern portion of the outlet stream. The grass forms a strip about 50 yds. wide along the lower canyon slope. Here the grass is thick and heavy and there are a few scattered bushes but barely extending 6 in above the 18 in high grass. The trap was set in a small runway of the growing of grass and a bush, that is where the grass and bush trigs intermingle.

Aug 20 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 345 traps. This animal was taken in a trap set just inside a ^{heavy} brushy thicket bordering the grassy ^{lower} stream margin of the outlet stream. The conditions here were those of heavy tall brush with a mossy ground cover which forms hummocks ^{about} the base of bushes, logs, etc.

Aug 22 Lake Habbema, Netherlands New Guinea 3225 m.

3 in 382 traps. The 2 ♂s were taken along the grassy edge of the outlet. The traps were set in small runways through the grass within 3 ft of the water edge. The other was taken along the edge of the bay shore. The trap was set on a peaty hummock within 6 in of the water. The vegetation was an open growth of coarse sedge which grows about the lake shore. 6 in. island was a flat high bank with a growth of

short grass and ^{sprouted} clumps of tall grass about
Since my arrival here I have continually
noticed diggings in the earth. They are common
about the lake shore and in moist places along
ridges or ravines where there is not a complete
canopy of trees or brush. These diggings consist
of holes 4 to 7 inches deep and about $1\frac{1}{2}$ to $2\frac{1}{2}$ inches
in diameter. The dirt usually removed in small
chunks is piled at the entrance. The hole
goes in at an angle of more than 45° and
often nearly straight down but never entirely straight.
These burrows or holes are probably made by the
animals in search for insects and worms.

Aug. 23 Lake Habbema, Netherlands New Guinea 3226m.
2 in 384 traps. According to the collectors
who brought them in they were caught in
traps set near the lake shore. They were
probably taken in small runways through the
grass ^{in or} near the border grass of the lake
shore.

Aug. 24 Lake Habbema, Netherlands New Guinea 3225m.
3 in 386 traps. Brought in by collectors
from traps set along lake border, and on
canyon slope above outlet. One and only ♀ had
3 young (in alcohol) in pouch. This pouch seems
to be little more than a fold in the skin
of the belly about the mammary glands. The
3 young were loosely attached to the tits. From
the size of the 4 mammary glands it would
appear that there were 4 young, one being lost
in rut to camp or when mammal was caught in trap.
I have examined the stomachs of a number
of these animals and they all seem to
contain insects, grubs, and a small amount of
vegetable matter.

Aug. 26 Lake Habbema, Netherlands New Guinea 3225m.
1 in 386 traps. Brought in by collectors.

Phascogale

Aug 28 Lake Habbema, Netherlands New Guinea, 3225m.
1 in 384 traps Brought in by collector. Probably
taken in similar habitat as indicated Aug. 23.

Sept. 15, 2 km. N.E. Wilhelmiana, Netherlands New Guinea 3560m.
One individual was captured yesterday by one of
my collecting boys as he was setting traps in the
low S.W. side of the camp valley. The individual
was seen running through the thick, short (8") grass
and was pursued upon by the boy. The habitat
in general was that of a grassy hill slope with
scattered tree ferns and numerous small shrubs.

Sept. 16, 2 km. N.E. Wilhelmiana, Netherlands New Guinea 3560m.
1 in 343 traps. This individual was caught in
a trap set in a grassy slope at the bushy
edge of the forest border. It was taken near
the one captured on Sept. 15.

Sept. 27 2 km. E Mt. Wilhelmiana, Netherlands New Guinea 3900m.
1 in 114 traps. Taken in steel traps put
in runway through a bushy thicket. The
general region is that of an old talus slope
of large boulders which is now overgrown
with scrubby trees, bushes, ferns, mosses etc.
It apparently has had some skin disease.

Oct 11 9 km. N.E. ~~W.~~ Lake Habbema, Netherlands New Guinea, 2800m.
1. One individual was shot by my collecting
boys and the other was brought in by a
Javanese. The one shot by the collector was
taken in the mossy forest with its forest trees,
open bushy undergrowth, and a mossy covering of lichen,
earth, trees, etc.

Oct 14 9 km. N.E. Lake Habbema, Netherlands New Guinea 2800m.
2. Two individuals shot by Javanese collecting
boys. According to him the male was
on the ground in moss covering of the lichen and

the ♀ shot from a tree some 25 feet ~~ft~~
above the forest floor.

Oct 16 9 am. McLure Lake Halberna, Netherlands New Guinea 2800m.

3 individuals brought in, one by a
Papuan (♂ white eared), and two by Rod. The one
which the native brought in is probably from
a much lower altitude for with it was a
pigon which according to hand occurs only at
lower levels. The ♀ white eared shot by Rod ~~etc~~
from a tree ^{of the mossy forest} some 25-30 ft. up. According to his
statement it was crawling about on the trunk and
then onto a limb before finally shooting it.
The other individual, a smaller species, was shot
at a higher altitude (3000 m). Seen running through
or about the mossy clumps and sedge clumps of a
more open country, not the mossy forest.

Oct 17 9 am. McLure Lake Halberna, Netherlands New Guinea 2800m.

3: 2 in 431 traps the 3rd was brought in by
a native. The two smaller species were taken by
collectors. ~~For~~ more traps set in small runways
in and about the litter of the forest floor. The
larger species, white eared, was taken by a
Papuan.

Oct 18 9 am McLure Lake Halberna, Netherlands New Guinea 2800m.

3: 2 in 425 traps. 1 taken by collector. (total 3). The other
species known to occur there were caught today. The
large white eared least was taken in a trap set in
runway through the litter and herbaceous plants on the
mossy surface of a tree. The dark striped species
was caught by a collector this afternoon. It was seen
running about on the ground. The other species, a small
mouse brown colored one, was taken in a trap set in an
inconspicuous runway along the base of a log which
was covered with moss and low growing plants.

Oct 19 9 am McLure Lake Halberna, Netherlands New Guinea 2800m.

3, 2 in 425 traps. The dark striped individual

Phascogale

*5184 was brought in by collectors. *5187 was brought in by natives, apparently taken at a lower altitude for I saw it on ~~its~~ its way up. *5180 was taken at the top of a clump of moss about the base of a tree. It may indicate that this species is semi-arboreal.

Oct 21 Lake Habbema, Netherlands New Guinea 2800m.

2: 1 in 418 traps. One specimen, a young white eared lemur was shot by my collectors while it was climbing about in the tree. The other was taken in a mouse trap set in a runway over the moss at the base of a tree in the mossy forest.

Oct 22 Lake Habbema, Netherlands New Guinea 2800m.

3: 1 in 418 traps. *5212 brought in by natives (still warm) *5213 shot by collecting boys from moss covered tree in forest north west of camp. The small species taken in trap was in said trap set on horizontal small runway ^{3'} above the ground. There was a ~~very~~ ^{fairly} good defined trail though ~~the~~ ^{the} ~~overland~~ ^{overland} and other plants that grow up through moss. Stomach contained insect remains.

Oct 24 Lake Habbema, Netherlands New Guinea 2800m.

4: 1 in 414 traps, 2 brought in by natives, 1 shot by my collecting boys. The one in the trap, a small gray brown species, was taken on a moss covered inclined tree trunk. ~~Through~~ ^{Through} the moss were growing ~~the~~ ^{the} ~~overland~~ ^{overland} plants and other herbaceous things. It was in an obscure trail though these plants on the moss covered inclined by that the lemur was taken. According to the collectors, the one they brought in, a white eared lemur, was taken on the ground. It is my opinion that these lemur frequent the large ^{mossy} ~~overland~~ ^{overland} forest and are equally apt for running over the ~~ground~~ ^{mossy} litter and tree trunks. They are probably diurnal. The individual brought

in by the Papuans were probably taken at a lower altitude.

Oct 25

ghm McLeh Gabbema, Netherlands New Guinea 2800m.

1 shot by Taxopus. It was on a moss covered fallen log in the undergrowth of the mossy forest.

Oct 26

ghm McLeh Gabbema, Netherlands New Guinea 2800m.

3: 1 in 40 ft traps, 1 brought in by Dyak^(Adang alupud) who said it was taken by him. He had run it running about on the ground and into a hole to escape capture. Another, white eared, was brought in by native probably from below. The one taken in traps was brought in by collector who said it traps were set in moss about the lower base of a tree.

Hand watched one of the "white eared" species today. The following is copied from his notes Oct. 26, 1938. "Phascogale white eared. - Today in the forest I watched one for some time through glasses at 65 yd. perhaps ten minutes, about 10:00 A.M. It was apparently searching for food on the moss covered trunks and branches of second story trees 10' to 35' up, in good forest. A very active beast, it usually worked its way slowly up a trunk and along branches, poking its nose here and there into the moss, continually keeping its nose close to trunk. The masses or windbreaks of branches makes no difference to it and it was frequently running along their under side, frequently, on smaller limbs jumped from one to another as nimbly as a squirrel. To get to next tree it would run down the trunk head first very quickly, to where it could cross in undergrowth. Most of the time it progressed slowly, exploring the moss. The tail was kept in line with body close and trails, when sitting on branch the tail hangs free it curved slightly slightly forward, the white tip making this conspicuous.

Phascogale

Once it sat up for some moments licking its hands and washing its face by rubbing its hands over its snuzzle. My attention was first called to this beast by idly watching a friendly *Sylviatula* which was playing about near it. During the whole time I watched it the *Sylviatula* was never far away 3'-15' not cuddling nor excited but just friendly as when near any of the birds with which it so frequently consorts."

Oct 27 9 km N.E. Lake Habbema, Netherlands New Guinea 2800 m.

2 brought in by natives. The melanistic one was probably taken at a much lower altitude for the skin about the nose and feet showed signs of drying.

Oct 28 9 km N.E. Lake Habbema, Netherlands New Guinea 2800 m.

1 brought in by natives. It appeared to be a rather fresh killed beast indicating it was taken in the immediate vicinity.

Oct 29 9 km N.E. Lake Habbema, Netherlands New Guinea 2800 m.

4: 2 in 4/13 traps, 2 brought in by collectors. #5273 and #5274 taken in traps set in mossy forest. Brought in by collectors. The two that were taken brought in by natives both were fresh specimens so we may assume that they were taken somewhere in the near by vicinity.

Oct 30 9 km N.E. Lake Habbema, Netherlands New Guinea 2800 m.

7: 1 in 4/13 traps, 6 brought in by natives.

Oct 31 9 km N.E. Lake Habbema, Netherlands New Guinea 2800 m.

3: 1 taken in 4/13 traps. 1 brought in by natives. 1 shot by collecting boy. The latter according to the boys was seen running about on the ground on mossy cover of the forest floor.

Nov. 1 9 km NE Lake Habbema, Netherlands New Guinea 2800m.
2: 1 brought in by natives. 1 shot by Dr. Trappes #5317. The latter according to him was shot while it was running in and clut the bushy undergrowth of the mangrove forest.

Nov. 2 9 km NE Lake Habbema, Netherlands New Guinea 2800m.
3: 2 shot by Rodo collecting boy who said they were running clut in trees. 1 brought in by a native.

Nov. 5 9 km NE Lake Habbema, Netherlands New Guinea 2800m.
1 brought in by natives. Proboscis was taken some distance below camp.

Nov. 6 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea 2200m.
1 brought in by natives.

Nov. 7 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea 2200m.
2 brought in by natives. The ♀ has young, the first embryos of the species found up to date.

Nov. 8 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea 2200m.
2 brought in by natives.

Nov. 9 Beli River 18 km NE Lake Habbema, Netherlands New Guinea 2200m.
3 brought in by natives.

Nov. 10 Beli River 18 km NE Lake Habbema, Netherlands New Guinea 2200.
2 brought in by natives.

Nov. 12 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea 2200m.
3 brought in by natives.

Nov. 13 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea 2200m.
2 brought in by natives.

Nov. 14 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea 2200m.
2: 1 brought in by natives; 1 in 308 traps. #5566. Taken in trap set at the mangrove buttress of a

Nov 25 Beli R. 18 km N Lake Habbema, Netherlands New Guinea, 2200 m.

4: 3 brought in by natives, 1 in 404 tags.
Taken in obscure runways over the ~~open~~ leafy forest floor, in the open undergrowth of the same forest.

Nov 26 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.

5 brought in by natives.

Nov 27 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.

8 brought in by natives. The 4 juveniles when brought in were still alive and clinging to the tits of the adult. This is usually the case and several young will remain alive and attached for as long as 24 hrs. At death the smaller young still remain fast to the tit. The large juveniles (adults) today uttered a faint squeaking noise at intervals of about 1 sec. and all the time aimlessly struggling to gain movement. At this stage these young have no sense of equilibrium or in other words which side is up.

Nov 28 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.

3 brought in by natives.

Nov 30 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.

7 brought in by natives. These white ones up have 4 mammae and as a rule 4 young although 3 or less are reared. The pouch is little more than a fold of skin over the mammary gland rather than the deep pocket of the phalanger. The lateral folds are more pronounced than the anterior or posterior.

Dec 1 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.

3: 2 brought in by natives, 1 shot by Burns.
According to him it was climbing about on the trunk of a large tree some 15 ft off the ground. Area was that of heavy forest.

Phascogale

Dec 2 Beli R. 18 km N Nela Helbena, Netherlands New Guinea 2200m.
1 brought in by natives.

Dec 3 Beli R. 18 km N Nela Helbena, Netherlands New Guinea 2200m.
6: 5 brought in by natives, 1 brought in by collector from 399 traps. Taken in forested area.

Jan 11 15 km SW Bumbad Camp Idenburg R. Netherlands New Guinea 1800m.
1 in 425 traps. Brought in by collector who said it was taken on the mossy covered floor of the mossy forest. Area flat of mossy forest with moderately thick second story growth and scattered undergrowth. Litter such as fallen logs very common.

Jan 14 1 shot by Rand this morning. According to his story it was taken some distance off the ground in the mossy trees of the second story. It was moving head first down the tree when shot. The area was a ridge with rather thick second story growth.

Jan 15 1 in 28 steel traps. This small beast was brought in by collector who said it was taken in steel traps set in large runway. This runway was partially calculated by some larger animal such as *Dorcopsis* and this animal just happened to be using the same for his commensals. The area was mossy forest on a steep hill slope with scattered big trees, moderate second story growth, and a rather thick undergrowth on the littered forest floor.

Jan 16 1 in 28 steel traps. Brought in by collector who said it was taken on surface runway through brushy thicket near a large mossy tree.

Jan 17 1 shot by Rand collecting log. He said it was climbing in a tree when he shot it.

Jan 18 1 in 28 steel traps. Brought in by collector. Said to have been taken from traps set in large ^{forest floor} runway.

Jan 19. - Today the boys showed me the traps in which the beast was taken. It was a rather large trail through an area of thick undergrowth, pandanus, and second story vegetation. Litter was common on the ground in some areas a confused tangle with the undergrowth.

Jan 19 ^{Burndell Camp} 15 km S.W. Idenburg R. Netherlands New Guinea 1800 m.

2 in 421 traps. Brought in by collector.

According to the the ♀ was in the trap and the juv. lay dead some 3 or 4 ft. distant. There were 4 tits in the open pouch, only 1 of which was functional. The pouch is certainly a rudimentary structure in the breast consisting of little more than the tits with the modified skin. There is also a slight fold at the anterior border of the pouch area but this is practically obliterated by the enlarged mammary glands.

Jan 21

1 in 421 traps.

Brought in by collector. This adult had 3 ^{measuring} ygs. 9 mm from wings to crown. The pouch or rather the pouch area including surrounding the 4 tits measured 20 mm m. long by 18 mm m. wide. These are inside measurements as to depth and do not include the low walls of the pouch which tend to flare outward. The fold of the skin ~~about~~ the pouch area measured 5 mm in height at each side and 3 mm in height posteriorly. Anteriorly there was no flap or wall to the pouch area. This shows a tendency toward an anterior opening as compared to the posterior opening in the a similar pouch of *Dasyurus*. Stomach contained remains of insects and other small invertebrates.

Jan 23

1 shot by Rando collecting boy. No post-mortem.

Jan 25 Aracaria Creek Idenburg R. Netherlands New Guinea 800 m.

1 brought in by a collector Dyak coolie.

Jan 27 15 km S.W. Burndell Camp Idenburg R. Netherlands New Guinea 1800 m.

1 in 215 traps

Brought in by collector. He said it was taken in runway near the base of the base of a large tree.

Feb. 5 18 km S.W. Burndell Camp Idenburg R. Netherlands New Guinea 2150 m.

1 shot by Rando collecting boy.

According to him it was sitting inactive hunched up in a mossy log in a tree. [Perhaps sunning itself.]

Phascogale

Feb 6 18 km SW Burnard Camp, Darling R., Netherlands New Guinea. 2150 m.

1 shot by collecting bag. Said to be running over the forest floor and climbed up, 1 m., a tree where it was shot. Stomach contained remains of insects. Habitat May, forest with undergrowth of bamboo.

Feb 9

1 in 415 traps. Brought in by collectors. Stomach contained the remains of insects. There was no apparent enlargement of the uterus showing that young embryos were present or that they had been recently born. The 4 tits however were enlarged and the mammary glands a well, exuding a watery like fluid when pinched. Titts of 4 tits all apparently functional. The following is diagrams and measurements of tits, pouch and relationship to vagina.

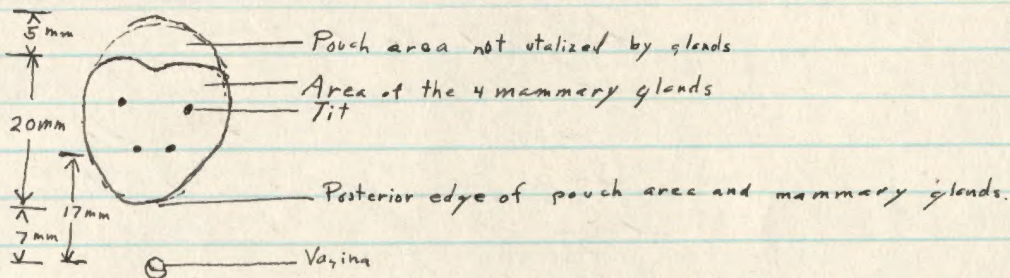


Diagram of pouch area and vagina

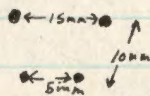


Diagram of tits

There must be some variation in measurements of males here and the actual living animal. There would also be variation with the different positions the mammal might assume. These measurements may be of some value and interest when considering that they were made on a freshly trapped individual. There also might well be and probably is a change in measurements with pregnancy and the young's development.

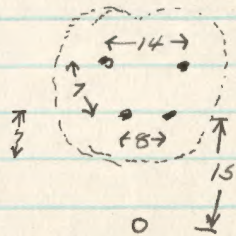
Feb 14 6 km SW Burnard Camp, Darling R., Netherlands New Guinea. 1200 m.

2 1 shot by Dyer + other caught in 27 stake traps. According to Dyer this one was shot while it was running along on the ground and ~~was~~ litter.

The other was taken in trap set in forest trail.
Both were taken during the day time, one shot
in morning and the other in second time
during traps, between 7:00 A.M. and 2:00 P.M.

Feb. 15 4 km SW Baniang Camp, Ghanung R., Netherlands New Guinea 1200 m.

1 shot this morning by Rand. According
to his statement it was first seen on a tree about
10 ft through starting in and out of holes. It then
took notice of him running down back side
of tree and up another (8 in. diameter) to a distance
of some 15 ft. shot. Following notes on pouch
Pouch area 28×20 mm.



The 4 tits all moderately large
but not lactating.

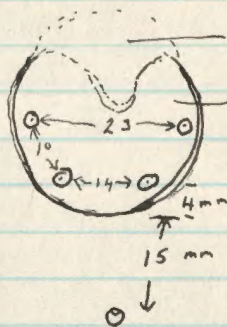
The lateral flaps small 2-3 mm.

No anterior or posterior flaps.

Rather long posteriorly directed
hair at the anterior region of
the pouch.

Feb. 18

1 in 223 rat traps. Brought in by natives
This individual #7517 is a relatively small ♀.
Each of the 4 mammary glands and tits are
enlarged but not lactating.



Pouch area but no gland. Sparse hair as on gland area.

Gland area

The fold about the pouch area
will form an incomplete
pouch is a flap of skin 3 mm.
high later on lateral walls and

2 mm. high posteriorly. There is no trace of fold anteriorly
but rather a space 20 mm. broad ~~which is~~ between
the horns of the lateral wall.

This afternoon examined traps in which individual
was taken. The traps in a runway at edge of bog in
littered bushy area of moist hill slope.

Phascogale

- Feb. 22 6 km SW Baramba Camp Idenburg R. Netherlands New Guinea 1200 m.
1 shot by Tustegh. He said it was seen running over the ground and then up into a tree where it was shot.
- Feb. 25 See notes for Peromyscus important.
- Feb. 27 2 in 221 rat + 17 steel traps. - The female had small non-lactating mammary, no emb. although ovaries were enlarged. The male had non-hydrated penis.
- Feb. 28 1 in 182 snares. Brought in by collector. Stomach contained insect remains. Penis not typed.
- Mar. 3 1 shot by ^{my} collecting boy. Said it had been climbing in tree.
- Mar. 4 1 in 209 snares. Brought in by collector. Stomach empty.
- Mar. 9 1 in 231 snares. Brought in by collector. It had been roosting in traps for several days. Said it had been taken on by crossing a stream.
- Mar. 12 4 km SW Baramba Camp Idenburg R. Netherlands New Guinea 850 m.
1 shot by Rand. According to him it was on the ground; led on time to climb tree; inspecting snare. Stomach contained insect remains. Open pouch containing 6 neonates 5 of which were lactating. No emb. Nym.
- Mar. 16 1 in 209 rat traps. Brought in by collector.
- Mar. 19 1 in 598 snares. Taken in a snare set in forest nursery. Habitat - agathis forest with moderately heavy undergrowth; lichen common; leafy forest floor. It's a heavy ~~stocky~~ sturdy built beast as compared to species previously taken on this expedition. Stomach empty except for refuse ^{excrement} ~~taken~~ while animal was in traps.
- Mar. 20 1 in 643 snares. Brought in by collector. Penis diseased. Stomach contained insect remains. As near as I can remember all specimens of this species have been taken in the agathis forest.
- Mar. 21 1 in 150 snare traps. Brought in by collector. Sub adult. Pouch area resembling other ventral belly region.
- Mar. 23 2 in 209 rat traps + 769 snares. Brought in

by collectors. Pouch area of ♀ only slightly differentiated

Mar. 27 4 km SW Bernhard Camp Denbigh R. Netherlands New Guinea 850 m.

1 in 207 rat traps. Brought in by collector. Taken in runways on ground in the second growth forest bordering the Agathis forest. Pats on pouch area - The pouch area contains a reddish hair which is in part due to a greasy secretion. This grease may be rubbed off on finger or piece of paper when pressed across pouch. The last stage pouch measures 30 broad x 20 mm long.

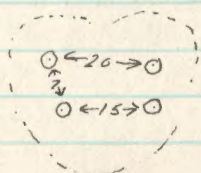
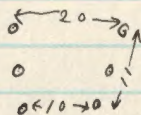


Diagram to left of tit in pouch area with thin spacing. From position tit to vagina is 27 mm. Position margin of pouch to vagina is 16 mm.

There are 4 mammae, enlarged but not lactating. The outer edge of the pouch area is well thickly lined with long hair which when hind legs are near together, in normal position, tends to envelope the tit and the central thick haired pouch area. Stomach contains remains of insects.

Mar. 27 6 km SW Bernhard Camp Denbigh R. Netherlands New Guinea 1200 m.

7; (6^{Juv}) 20^{days} X 3 days Brought in by collector.
Dimensions of pouch 35 x 30
6 tits all functional and with young



Posterior lip of pouch to vagina 12
" " " to posterior tit 15

Pouch form a cap with lateral walls 22 mm, anterior wall of pouch 10 mm. and posterior wall not a fold of skin as other walls but rather protruding part of the thigh. Protruding long hair from the rim of the pouch except in posterior region. Hair of pouch is fine

Phascogale

sparsely scattered over inside of pouch. Hard
suggest that perhaps the young are carried during
life in the deeper part of the pouch which is to
either side of the tit row close to the lateral
walls.

Apr. 2 H.K. SW Burnland Camp Glenburg R. Netherlands New Guinea 850 m.

1 in 27 steel traps. Taken on ridge slope
north of camp. Brought in by collector. Stomach
contained remains of insects. 4 mammals not lactating.

Apr. 4 1 in 1075 snares. Brought in by collector.

Stomach contained remains of insects, no vegetable matter.

Apr. 20 Burnland Camp Glenburg R. Netherlands New Guinea 75 m.

1 in 463 snares. Brought in by collector.
Taken on lower ^{mountain} slopes above flood plain.

Apr. 23 1 in 570 snares. Brought in by collector.

Taken on ^{lower} mountain slopes above flood plain.
Stomach contained remains of insects.

Apr. 24 1 in 27 steel traps. Brought in by collector.

Taken on lower mountain slopes above flood plain.

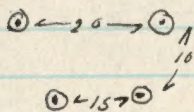
Apr. 25 3 in 602 snares. Taken on lower mountain
slopes. The ♀ was in trap and according to collector
2 young were about her, 1 being captured the other
escaped. This ⁵⁰⁰ ~~young~~ = 7914 was apparently still
suckling the mother although quite able to run
about by itself. Following are measurements of
pouch.

Vertical to posterior tip of pouch area 9 mm.

Posterior tip of pouch area to anterior row of tit 10 mm.

Length of pouch area 30

Width of pouch area 28.



The pouch area is ~~broadly~~
broadly heart shaped with slightly
the elongated line about the margin.
The area itself being sparsely
lined with fur hair.

Apr. 29 Buried Camps Shinkung R. Methuylake New Guinea 50-25m.

2 in ~~23~~²³ net traps ^{+27 stubs +296} Taken on narrow strips of land along edge of lagoon which is above the present high water level but which will be isolated soon if water continues to rise. # 7968 taken in stub traps set on ridge of low mountain slopes.

May 1

^{in 853 + new + 27 stub traps and} 2 brought in by collector. Taken on lower mountain slopes.

May 2

1 in 27 stub traps. Brought in by collector. Taken on lower mountain slope above flood plain.

May 5

1 in 27 stub traps. Brought in by collector from hill slope.

Mar. 30 4 km. SW Burnad Camp Idenburg R. Netherlands New Guinea 850 m.

1 shot yesterday evening. It was flying about 30 ft above the forest floor through a small opening in the trees of the upper flood plain. Flight is slow and rather constant with occasional very rapid burst in pursuit of insects.

Apr. 22 Burnad Camp Idenburg R. Netherlands New Guinea 80 m. - 75 m.

1 shot yesterday evening by road.

Apr. 23

1 shot yesterday evening. It was flying near the top of the second growth canopy. The flight is slow and steady with occasional quick burst as it feeds ^{through} the small openings between the trees of the mixed second growth and rain forest.

Apr. 26

1 shot. It was flying along forested edge of lagoon some 10 ft above water.

Apr. 27

1 shot. Flying slowly about edge of forest at mouth of small river over lagoon.

Apr. 28

1 shot. Same locality as yesterday's specimen.

May 1

1 shot. Flying about forested edge of lagoon some 10 ft above the flood water.

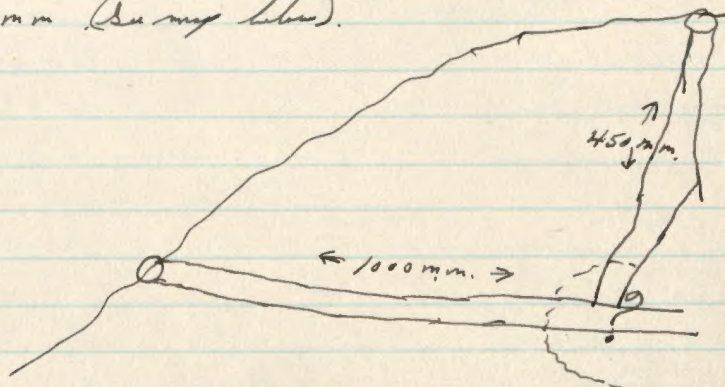
May 2

1 shot. Along forested border of flooded lagoon.

Pogonomys

June 25 Hollandia, Netherlands New Guinea.

One individual was brought in this morning by two of my Dyak collectors. They said that they had dug it out from a hole in the ground. This afternoon I visited the spot. (See picture). The burrow was located on the east facing slope of one of the small hills to the south west of Hollandia about $\frac{1}{2}$ mile. The forest here is one that has been heavily cut over there remaining only a thick brushy stand of small trees, shrubs, and decaying stumps and a few scattered, larger trees which had probably been unsuitable for lumber. The ground beneath the thicket is thinly but completely covered with a thin layer of humus and leaves. The soil itself is a rich, red, and deep; with little indications of zonation. The burrow itself had two entrances 2-3" in diameter one going in at an angle ^(10°) downward into the slope, the other went almost straight down (90°) to join with the other below. The depth was 450 mm; the length from entrance to bottom 1000 mm (See map below).

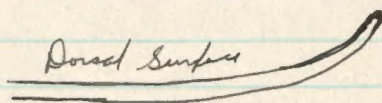


The bottom marked? was not surveyed and at best only a rough sketch can be made of the burrow system for the Dyaks had obliterated most of the passage way.

Other burrows which were examined near this same locality and which possibly belong to a different species had been made where roots of trees had been. These roots having decayed and left a passage the firm red soil. There was a little evidence about the entrance that the animal had done a small amount of the actual digging of the burrow. In one of the burrows there was

clung and hitched middens (seeds, husks, etc.) strewn along the burrow way.

The tail though usually not prehensile has a definite upward curve as shown by diagram.



July 4 Hollandia, Netherlands New Guinea.

Caught one individual in one of the 443 traps. It was in one of the 100 traps set by the Pagan collectors north east of Hollandia.

July 15 Hollandia, Netherlands New Guinea.

A single specimen was brought in today by Mr. Birkman. He said that he had caught it at his plantation which is located 4 km. east north east of Labati.

July 20 Lake Hattuma, Netherlands New Guinea. 3225m.

One individual was taken in the 50 traps. The trap was set at the base of a small relatively dry sylvan clump. The clump was situated on a ridge one of the drier spots of the trap line. Along the base of this clump was a small poorly defined trail. Away from the clump was a small ^{54 ft} patch of level, dry hill covered ground. The entire area had a drier aspect than most spots where the other traps were set. The stomach contents indicated that this animal had been living on fruits and berries. No green vegetation nor animal matter was found. The tail as compared to the Hollandia form is less curved at the tip but the dorsal hump tip is more pronounced.

Aug 2 Lake Hattuma, Netherlands New Guinea 3225m.

Two individuals in the 372 traps. One was taken from the ^{drier} ~~grassy~~ ridge ^{south south} ~~south~~ east of camp, the other from along the lake shore. The latter was caught in a trap set in a small

Pogonomys

runway through the low (2'-5') thick grass near the edge of the lake. Moist conditions prevailed here not the type of habitat in which one would expect to find such a mammal as this.

Aug 3 Lake Habbema, Netherlands New Guinea 3225m.

1 individual in 394 traps. The animal was caught in a trap set in a small runway near the lake shore. Here there was a thick short grass through which the runway passed from one low clump of bamboo to another. These small bush clumps had a clump of moss at its base into which the runway disappeared.

Aug 8 Lake Habbema, Netherlands New Guinea 3225m.

1 in 388 traps. This individual was caught in a runway through a low open bushy area. Here there was a ground cover of moss which was in clumps about the low bushes.

Aug 12 Lake Habbema, Netherlands New Guinea 3225m.

2 in 375 traps. One of the individuals was taken in or near the middle of a mossy forest where the canopy was a bit more open allowing a heavier growth of *rhododendron* underneath and a heavy mossy floor cover. The trap was set in a small runway through the moss covered stems of the undergrowth. The other individual was taken in the grassy valley in a trap set in a small trail running through the dense grass which covered the gentle slope in this area. There was no bush nor trees here within 100 ft of the region; it was a solid stand of grass about 20 inches in height. The trail was small but well defined and not evident from above.

Aug 13 Lake Habbema, Netherlands New Guinea 3225m.

2 in 375 traps. Brought in by collectors. One said

to have been taken ~~by~~ near the top of the ridge west of the grass valley where there is a low bushy growth and a mossy ground cover.

Aug 14 Lake Habbema, Netherlands New Guinea 3225 m.

2 in 375 (2 spp.). The larger species was taken in a trap set ^{in mangroves} beneath a tall ^(5m) bush on one side of the bush was a ^{small} hummocky grassy region bordering the small stream. On the other side of the bush was heavy ^{tall} bushy canyon slope with a mossy ground cover. This animal was taken in what would be called the border between the heavy bushy hillside and the narrow grassy stream bed. Location may be up the small stream west ^{from} the ^{upper side of the} bay. The other ^{the smaller sp.} *Pogonomys* was taken in a heavy grassy area on the upper slope of the grassy plain across (west) of the bay. This heavy grassy patch is relatively free of any herbaceous plants except those that are obscured by the grass itself. The traps in which it was caught were set 30 ft away from the nearest trees or bushy area. Another specimen was taken in same region two days ago.

Aug 18 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 375 traps. Brought in by collectors. Not prepared because of damaged skull and skin.

Aug 19 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 375 traps. Brought in by collectors. Don't know habitat.

Aug 20 Lake Habbema, Netherlands New Guinea 3225 m.

2 in 345 traps Brought in by collector. One was alive and is being kept in cage to study. Watched it for nearly two hours today climbing about the branches within its cage and now and then it actually uses its tail in a dorsally prehensile position. For the most part the tail is used as a balancing organ by swinging it in space or by resting it against another object. Several times the tail was loosely raised about

Pogonomys

a limb in a semi prehensile position.



Probably the most interesting thing about this is (in illustration) that when x is marked on illustration the dorsal or near dorsal part of the tail was against the limb. This semi prehensile use of the tail was not the usual thing. Twice during the time watched the animal suddenly half curled its tail about the wire across at the top of the cage. In this case the animal used its tail in a dorsal position. The animal is very active in the cage spending most of its time in a nervous search about the cage floor on avenues of escape. Its movements are quick and active quickly and easily moving about the small limbs put in the cage. Several times it was seen to jump from 4 ft & inches landing with ease on a small limb.

Aug. 21 Lake Halberna, Netherlands New Guinea, 3225 m.

The one specimen caught today in 387 traps was taken in an open bush thicket with a ground cover of moss clumping up about the bases of bushes. The traps were set in a small runway through these basal moss clumps.

Aug. 22 Lake Halberna, Netherlands New Guinea 3225 m.

1 in 382 traps. This individual was taken in a trap set in a runway through the grassy border of the outlet stream. Steromys, Hydromys, Rattus and Phascogale have been taken in a similar type of habitat.

Aug. 23 Lake Halberna, Netherlands New Guinea 3225 m.

1 in 386 traps. Individual brought in by collectors.

Aug. 24 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. Being kept alive for observation. Spent several hours watching the least climb about the limb in its cage but at no time did I observe the animal use its tail in a ^{directly} prehensile fashion. The tail was used solely as a balancing organ swinging in the air or resting on an adjoining limb. The tip of the tail was curved with a $\frac{1}{4}$ inch upends tip curl. It is a very active animal along small limbs or jumping from limb to limb.

Aug. 25 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. Brought in by collectors.

Sept. 12 2 km. NE Wilhelmina-top, Netherlands New Guinea 3560 m.
1 in 404 traps. Brought in by collectors from a line of traps that extend up the hill to the NW of camp. The region is one of open sub-alpine forest and grass.

Sept. 13 2 km. NE Wilhelmina-top, Netherlands New Guinea 3560 m.
1 in 404 traps. Brought in by collector from same line as specimen taken on Sept. 12.

Sept. 15 2 km. NE Wilhelmina-top, Netherlands New Guinea 3560 m.
1 in 363 traps. Individual caught in trap set at the base of a limestone cliff where the space between the rock and the grass made a natural runway along its base. There were both grass and brush in the immediate area.

Sept. 16 2 km. NE Wilhelmina-top, Netherlands New Guinea 3560 m.
1 in 363 traps. Taken in trap set in runway through ^{low open} brushy region of the lower forest. (S. 20' side of the camp valley.) Sparingly appeared to contain scrubby shrubs and the fleshy plants of fruit and flowers.

Pogonomys

Sept 18 2 km NE Wilhelmira, Netherlands New Guinea 3560 m.

1 in 358 traps. Taken at the edge of the forest where the low brush was mixed with grass patches.

Sept 21 2 km E Mt. Wilhelmira, Netherlands New Guinea 3800 m.

taken by the cook this morning from the wood pen. It had fallen into it sometime during the night and drowned. The region is that of an open alpine forest (tundra kind) with an intergrowth of coarse hard grass.

Sept 24 2 km E Mt. Wilhelmira, Netherlands New Guinea 3850

1 in 104 traps. Brought in by collector who said it was taken in a runway though the grass in an open sub-alpine forest.

Sept 27 2 km E Mt. Wilhelmira, Netherlands New Guinea 3800 m

1 in 104 traps. Trap was put in ^{grassy} runway at the edge of a large boulder. The general region is that of long grass hill slopes with scattered boulders and *Crocosoma* bushes.

Sept 28 2 km E Mt. Wilhelmira, Netherlands New Guinea.

1 in 101 traps. This individual was taken at an altitude of over 4000 m. from a trap set in a small runway beneath a *Crocosoma* bush. The region was on a very steep hill slope vegetated with short grass, bulbous plants and scattered *Crocosoma* bushes.

Oct 18 9 km NE Lake Habbema, Netherlands New Guinea 2800 m

1 in 425 traps. Taken in trap set ^{in runway} at the mossy base of a tree in a rather brushy region of the mossy forest, that is the undergrowth here was more prominent in adjoining areas.

Oct 19 9 km NE Lake Habbema, Netherlands New Guinea 2800 m

2 in 425 traps. The adult individual

was brought in by collectors. The juvenile specimen was taken in a trap set in running mossy litter of the open bushy undergrowth of the mossy forest.

Oct 24 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 414 traps. Taken in a small running thicket of the bushy litter of the more open mossy forest. Moss covered the ground and litter.

Oct 27 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 413 traps. Taken along the bushy edge between the sedgeland forest and the second growth bordering the stream.

Oct 28 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by natives this afternoon. It had been recently killed indicating it was probably taken somewhere in the immediate vicinity.

Oct 31 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 413 traps. Taken in trap set on top of a small log crossing the stream. There were masses of bushy second growth along the stream side bordering the same forest.

Nov 1 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by natives. It was still limp and warm so I assume it was taken somewhere in the immediate vicinity.

Nov 2 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 197 traps. Brought in by collector.

Nov 8 Beke R. 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
10 brought in by natives

Nov 11 Beke R. 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives

Pogonomys

Nov 13 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m
8 brought in by natives.

Nov 16 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m
7 Pogonomys brought in by natives.

Nov 17 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m.
10 in by natives.

Nov 17 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m.
11 brought in by natives.

Nov 20 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m
1 brought in by natives.

Nov 23 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m.
8 brought in by natives.

Nov. 24 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov. 26 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m.
10 brought in by natives

Nov. 26 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m.
4 brought in by natives.

Nov. 27 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m.
1 = 4170 in 484 traps. Taken in forested
area with open undergrowth of bush, lichen, and
a ground cover of leaves. The trap was set in
an ill-defined trail over the leafy forest floor.

Dec. 1 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec. 2 Beli R., 18 km N Lake Kabbana, Netherlands New Guinea 2200 m
2 brought in by natives.

1928
/ 1929

Dec 3 Beli R. 18 km N Loh Kebbene, Netherlands New Guinea 2200 m.
1 brought in by natives.

Mar. 27 4 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 shot yesterday evening by collecting boys.
According to their report it was seen in
the grass near the river bank.

Apr. 19 near Bernhard Camp Idenburg R. Netherlands New Guinea 400 m.
1 shot this morning by Verstight. Locality
on main track at 850 m. camp. Habitat
primary forest. According to Verstight's report
the animal was seen first on the open forest
floor and then climbed a tree some 20 m (?)
above the floor where it was shot. Stomach
contained remains of fruit.

Pseudochirus

Aug. 4 Lake Habbema, Netherlands New Guinea.

3225 m.

Two of this genus were brought in July by a convict who had been cutting trees 200 yd south east of camp (see general account July 25, 1938). The following notes are accumulated observations during the past days carefully and as well as observation made "on the spot".

Climbing: The front feet have three toes, generally the other two much the same as the Phalangium but in this case there is a wider grasp as compared to the relative size of the hand. They seem to depend upon the grasp rather than the claws for traction. The hind feet are also well developed for grasping. The thumb is grosser than as in Phalangium but as in the front feet this is a broader grasp. Both the hind and front feet are well developed for this grasping type of climbing. It seems to me that such feet are well suited for locomotion in and about low brushy thickets with a moss floor. In pushing or traveling through the brush they can reach from one small bush to another. On traveling on or through the mossy thickets such wide grasping feet permits a greater quantity of moss to be included in the grasp than the softer or thinner mosses will bear their weight without sinking into the vegetation. Such sinking would certainly impeded locomotion. The tail is of little use in locomotion it functions only as the animal progresses from limb to limb horizontally here acting as a brace or ballance by resting on or curling loosely about the limb behind. Their activities whatever they be are far more quicker, than seems to be a newness to their actions which is taught by Phalangium maculatum.

Abundance: These are the only two that I have seen during my stay here.

Plant associates: These two were taken just beneath the top surface of a moss clump. This clump was about the base of a Likiepia which grows from a very open forest on the hill slopes of the region. The

dominant shrub being *Rhododendron* which forms a moderately dense growth between and beneath the *Abies* forest. The ground in this region is completely obliterated by a carpet of moss which about the base of the bush and thus builds up into a hummock or clump. It was in the top of such a clump that the animal was found.

Voice: It utters no sound which I have heard. Sometimes when disturbed it scurries.

Gregariousness: At least it is difficult to discern such habits or instincts in caged animals. Thus I can say that at all times the two caged animals sleep a spread thin, usually hunched up side by side. Neither exhibits antagonism towards the presence of the other.

Nests: Four to six inches of moss was placed on the floor of the cage. The animal pressed and dug into making a cavity near the center large enough to contain their two bodies. The entrance is from the side is about 5 inches in length. No nests are to be found in this nest; the nests being deposited outside in either corner of the box. This would suggest the presence of a "dangery" in connection with the nest of this animal under normal condition. This nest and burrow was made during a period of three or four days by pressing themselves into the moss and finally using the front feet to separate the moss in a digging fashion.

Food: *Berries*, *poppy*, Fruits of *Vaccinium* and *Kaulthemia*. The latter named fruit seems to be particularly relished, the fruits and leaves being both eaten. I have seen the animal search through the moss and eat the sticky-looking green shoots of *Kaulthemia* plants. The process of eating is much the same as with the *Philomys*. The lower incisors being thrust into the fleshy part of the fruit and then the bringing the upper incisors down thus removing a piece for mastication. On one occasion the length of the

Pseudochirus

It was observed drinking from the receptacle within the cage. Drinking was accomplished by rapidly lapping up the water with the tongue. There was an occasional vigorous sideways shake of the head as if it clean the mouth of water removed from getting the head ~~to~~ ~~in~~ into the water.

Whiskerous notes: On seeing a finger when disturbed this animal looks about the floor of the cage for a hole or depression in the ~~more~~ rather than climbing to the top of the cage as would a *Chalchagua*. A ~~cage~~ series of cut and forked branches are put within the cage but these are used only during the night when the animal is in search for the food placed a hang from the top of the cage.

The ears of this animal are capable of turning and folding in such a manner as to ~~be~~ lie against the head thus preventing particles of moss etc. to enter ear while it ~~gambols~~ ~~thru~~ the moss.

They apparently depend upon smell rather than sight for the location of their food and nest hole. This is quite apparent in the day time. Perhaps, ^{probably} their sense of sight is better at night.

Their resting position or sleeping position is in a ^{vertical} loose coil with their head between their legs and their tail wrapped ^{below} around their feet in a loose coil.

They sit on the basal portion of the tail as does *Chalchagua*.

In descending vertically down a small limb the tail is not used but rather

The food is eaten by grasping it in the front paws and raising it to the mouth. The animal is usually in a hunched position when feeding.

In grooming itself it uses two methods, one is to rapidly scratch itself with its hind feet. It appears as though the dactylous claws are used as a comb. After a brief rapid scratching starts it lifts the claw as if to remove hair etc. from between the claws. The other method is to

run the lower incisors through the fur. This latter type of pruning I have seen employed only once and here the After each stroke through the work of the incisors were left in the pelt.

Food: *Didia berries*, and flowers of *Rhododendron*.

The main use of the tail seems to be when the animal releases hold of the branch it is on with the front feet and reaches out for another branch, food, etc. Then the tail anchors to another branch in the rear so as to give an additional grasp ^{other than} that of the hind feet. The animal does not hesitate about sitting on a small limb eating holding food with the front feet and letting the tail hang down apparently useless except possibly as a balancing organ. Even when walking or clinging to the top of cage the tail is not used prehensile and when it is curled loosely about an object the dislodging of the tail does not seemingly affect the security of the grasp.

The agility of the animal reminds me much of that of a rat. It often jumps from short distances from one to another. It does not hesitate about going down head first, can turn or reverse direction of travel easily; can crawl along top of cage or bottom of small branches, and can go straight up or down a limb with equal agility.

These activities are limited almost entirely to the night time regardless of the artificial light. During day when disturbed they are often semi active for a short period.

Aug 5

I have been watching the beast for some time this evening by lamp light. The most important thing is that the female ate the posterior half of its young and discarded the remainder on the floor. It ate its young with apparent reluctance and grunts after which it cleaned itself, slicking its hands, wiping its face and licking

Pseudochirus

its pouch. It is too bad to lose the specimen but I did not realize the ♀ carried young until this evening.

It is now eating the fruits and flowers of *Samolus*. The young can also be seen on its food bit.

Grooming: Licking of its hands and wiping face with same. 15-25 % of this time during hours of activity or spent in grooming. The hind foot is employed most of the time in this process with repeated licking of the hand ~~to~~ claws during grooming. About every three seconds of scratching the claws are licked.

Aug 6

Prepared the ♂ as a specimen today. ^{#4611} The teeth are apparently those of an adult but the testis were very small measuring $3 \times 2\frac{1}{2}$ mm. The scrotum was not in a long pendulant sack as other marsupials like *Thalassomys* but rather in a short sack which did not hang below the feet of the animal.

Large brown eyes with small black pupils.

Large caecum measuring 220 mm. $\times 17 \times 10$ There are many folds throughout its length.

The half eaten young was preserved in formalin ^{#4610}

Aug 10 Lake Habbema, Netherlands New Guinea 3225 m.

This morning there were no individuals taken in the 387 traps. It was caught in a rat trap set in a mossy forest through a very thick brush-shaded mountain canyon slope. The one thing that characterizes this region from others in the bushy forest where the brush varies from 8' to 12' high and some 125' \times 400' along the sides of a small canyon. About the base of the thicket is a long mat of moss which often extends for 3 or 4' upon the brush trunks or stems.

Aug 12 Lake Habbema, Netherlands New Guinea 3225 m

1 in 375 traps. This animal was caught in a mouse trap set at the entrance of a burrow at the base of the tree in the mossy forest. The forest in this region was quite heavy forming a

thick canopy which did not permit a heavy undergrowth of bush. There was practically no undergrowth except for the moss and its associated plants which cling to the trunks and limbs of the forest trees. The burrow was dug in the earth and moss at the base of ~~the~~ a small tree. The stomach contained fleshy parts of fruits and flowers.

Aug 14 Lake Habbema, Netherlands New Guinea 3225m.

1 in 375 traps. This individual according to the collector who brought it in was taken ^{in the} on the top of the ridge which was north from camp. In this region there are large clumps of bushes both tall (10 ft) and short (3 ft) with small inter spaces of moss covered ground. There is also moss about the base of the thickets and ~~over~~ the lower limbs and branches of the bushes. The stomach of the animal contained finely ripened fruits fleshy parts of fruits and what appeared to be flowers (identified).

Aug 18 Lake Habbema, Netherlands New Guinea 3225m.

1 in 375 traps. Individual brought in by collector who said it was taken in the forest in the same line of traps and probably in a similar type of habitat as specimen taken Aug 12.

Aug 20 Lake Habbema, Netherlands New Guinea 3225m.

2 in 21 stub traps. These two individuals were taken in a heavy mossy forest in traps set on the moss ground. There were well marked runways ~~above~~ over the forest floor and it was in these runways that the traps were set. The forest here is one of heavy light (20-30 ft) rather than a forest proper. The bushy forest as it might be called, has a quantity of low limbs and branches near the ground which were clothed in moss. Scattered through this forest were larger trees protruding above the heavy bush.

Pseudochinus

Aug 21 Lake Habbema, Netherlands New Guinea 3225 m.

2 in 387 of 12 stick traps. One was taken along the brushy hill slope across the big fern camp. Here there is low (4 ft) but thick brush with a moss ground cover clumped up about the base of the brush. The traps were set at the entrance of a large (5 in.) hole entering one of these clumps. Previously I have caught *Stromys* in the same traps. The other a male was taken in the same habitat and locality as those taken Aug 20.

Aug 22 Lake Habbema, Netherlands New Guinea 3225 m.

A skull of an adult animal was brought in yesterday by Rand. According to him it was found on the top of a moss clump with a portion of the skeleton. A similar one was previously found by him. There is no clue as to why or how it got there.

Aug 24 Lake Habbema, Netherlands New Guinea 3225 m.

2 in 384 traps. One was taken by in a net trap set in a small area of brushy forest above the outlet stream. Here there is brush 8-14 ft high with scattered trees and a heavy mossy ground cover. The other was taken in the brushy forest 1 km NNE of camp. The heavy brush 10-14 ft high with scattered trees and a ground cover of moss. This moss not only covers the ground but the bases and limbs or trunks of the brush. The stomachs of both individuals contained vegetable matter which appeared to be the fleshy part of fruits and flowers. The individual with the young had only two mammary glands only one of which was functional (giving milk) at this time. The young were detached from the tit when found.

Aug 26 Lake Habbema, Netherlands New Guinea 3225 m.

1 adult ♀ with juvenile in 386 traps. The specimen

was taken in heavy brush bordering the mossy forest patch. (1 kilometer NNE of camp). Here the brush was 10-14 ft. high, scattered trees, and scattered small patches of low barely indigenous. There was a mossy ground cover. Only one of the two tits was functional.

Aug 28 Lake Habbema, Netherlands New Guinea, 3225m.

1 in 384 traps. Taken in the heavy brushy ridge border of the mossy forest patch situated 1 km. NNE of camp. Here there was a high stand of brush (10-14 ft) open enough to show a heavy ground cover of moss and scattered small bush clumps. The moss was clumped up about the bases of bushes and it was, at an interval to July (5-6" in diameter) that the traps was set which caught the beest.

This heavy brush seems to be the preferred type of habitat where there is an undergrowth of scattered small bushes and a ground cover of moss which covers logs, bases of bushes and is even in clumps on the limbs of the brush itself.

Sept 3 Lake Habbema, Netherlands New Guinea, 3225m.

1 in 9 static traps. Taken in traps set at the approach of an arboreal runway. This route is apparently used by another larger mammal for there is a pile of dung ("4 x 2") below. This larger mammal is as yet unknown to me. The region is the heavy high brush land bordering the mossy forest 1 km. NNE of camp. The arboreal runway is the only peculiar thing about the locality. It is a horizontal branch 3" in width and about 10 ft long bridging a narrow canyon. The claw marks, the dung pile, and the dung indicate that it has been used frequently.

Pseudochirius

Sept 15 2 km. N. Mt. Wilhelm - top, Netherlands New Guinea 3560 m.

1 in 20 stake traps. The trap was set in a small runway through the open grass patch between two clumps of sub-alpine forest. The space between the clumps was only about 10 ft wide and rather well protected by uneven ground and small scattered bushes. These mammals are not apparently as common here as at Habbema, for though I have spent considerable time looking for their signs up to date I have not found any where as about Habbema it was quite common on moss covered benches or elevated moss clumps. The stomach contained finely ground remains of what appeared to be shrubby parts of *Psittacanthus*. The gland secretion to the bladder was much enlarged appearing as if severely functionally. (season).

Sept 17 2 km. N. Mt. Wilhelm - top, Netherlands New Guinea 3560 m.

1 in 20 stake traps. Taken in the same trap set in the same place as the individual taken on Sept 13, 1938.

Sept 28 2 km. C. Mt. Wilhelm, Netherlands New Guinea 3800 m.

1 in 181 traps. Individual taken in runway skirting the sub-alpine forest where it borders the tall grass hill slope. The forest is situated in a narrow band beneath or rather at the base of a limestone cliff.

Oct 24 2 km. N. Lake Habbema, Netherlands New Guinea 2800 m.

1 in 414 traps. Taken in traps set in many fallen logs. The general region was that of mossy forest on the ^{upper} edge of a stream bank. Here there are numerous fallen trees and much litter. Also patches of bush in the open spots. The owl nest from which *Scaphiopus* was taken seems to indicate that this animal was at one time more common here than at present. I have

some signs (droppings) along arboreal runways but the traps up to date have yielded only 1 from here regardless of the ~~many~~ number of apparently good sets.

Oct 24 9 hr M C Lake Halbera, Netherlands New Guinea 2800 m.

1 in 409 traps. Brought in by collector who said it was taken in ^{from runway through mangrove} traps set on fallen log. Most of the logs and litters are moss covered, some appearing trampled down by continual passage of feet. It was in such a trampled mossy runway that the trap was set.

Nov 1 9 hr M C Lake Halbera, Netherlands New Guinea 2800 m.

3: 2 Brought in by natives probably from below 2300 meters or so. 1 taken in trap set on mossy log along the undergrowth of the mossy forest. Mamma indicated that it had young. This probably died when the parent became cold.

Nov 5 9 hr M C Lake Halbera, Netherlands New Guinea 2800 m.

1 brought in by a native. Probably taken some distance below camp.

Nov 10 Bule P. 18 hr M C Lake Halbera, Netherlands New Guinea 2200 m.

1 in 308 traps. Specimen taken according to collecting log in trap set in heavy forest on the steep stream slope.

Nov 13 Bule P. 18 hr M C Lake Halbera, Netherlands New Guinea 2200 m.

1 brought in by native.

Nov 15 Bule P. 18 hr M C Lake Halbera, Netherlands New Guinea 2200 m.

5 brought in by natives. The juv. #5612 was in the pouch of its mother #5610. It was not clinging on to the tit. There was only 1 of the 4 tits functional.

Pseudochirus

- Nov 18 Beh R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.
- Nov 19 Beh R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.
- Nov 20 Beh R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
6 brought in by natives.
- Nov 22 Beh R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
6 brought in by natives. The large silver
dark striped species exhibits something heretofore
unnoticed by me and that is an oil patch
between the front legs and slightly forward.
It was particularly apparent in the ♂ individual,
the hair in this case being calid and giving
an organized matted look to the hair. The female
oil area was not so apparent. That is the
hair was not calid down with the secretion
but it was readily reorganized on
parting the hair and examining the bases.
- Nov 23 Beh R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.
- Nov 23 Beh R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
8 brought in by natives. There were 2 individuals
with young in the pouch. 2 each case the juvenile
follows the ad. ♀ in the catalogues.
- Nov 24 Beh R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.
- Nov 27 Beh R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives. 2 ♀s with their
young.
- Nov 28 Beh R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives. 2 ♀ with their young.

Nov. 29 Bela R. 18 km N Lake Habbema, Netherlands New Guinea. 2200 m.
6 brought in by natives

Nov. 30 Bela R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec 2 Bela R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 c & f with young. brought in by natives.

Dec 3 Bela R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Jan 10 15 km SW Bernhard Camp, Idenburg R. Netherlands New Guinea 1800 m.
1 adult ♀ taken yesterday evening by a soldier.
The beast was climbing about the ridge pole of the store tent. See photos. The pelt is very poor, many loose hairs and a condition of the skin which resembles mange.

1 adult ♀ and juvenile ♂ shot by collector.
Jan 11 According to his story it was shot while climbing up a large tree in the mangrove forest. It reached a height of some 30 ft before being brought down with gun. Stomach contained remains of material which appeared to be fruit.

Jan 12 1 adult ♂ shot by Bonds collecting bag. According to him it was climbing along a log a few feet off the ground. The stomach contained remains of what appeared to be finely masticated fruits.

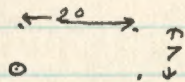
Feb 3 18 km SW Bernhard Camp, Idenburg R. Netherlands New Guinea 2150 m.
1 shot by Dursling. According to his report it was climbing up a small tree some 2 meters off the ground. Apparently this species moves about during the day for these specimens have been taken, each in the morning while they were crawling about the second story vegetation.

Mar 21 14 km SW Bernhard Camp, Idenburg R. Netherlands New Guinea 850 m.
1 shot yesterday evening by myself.

Pseudochinus

It was seen in one of the small second growth trees at near the river edge of the flood plains. It was within a small branch some 15 ft above the ground. The tree was small stem branches and open foliage. For a distance of some 11 ft up the trunk was latticed with vines and enlarged nodes. Below the tree was heavy undergrowth. The animal made no attempt to escape but remained motionless on the limb. The young is in alcohol.

The pouch ^{opening} is U shaped 20 mm deep and 12 mm across base of U. Position of pouch to vagina 58 mm. Measurement of pouch 50 long by 60 wide. From base of U to position of which young was attached 30 mm.



Stomach contains remains of fruit only.

Mar. 29 4 km SW Berndt Camp Idenburg R., Netherlands New Guinea 850m.

J (2 Juv.) shot yesterday evening by collecting bag.

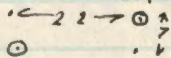
He said he shot it from a fruiting Eugenia tree, a common tree of the flood plains. The pouch contained 2 young (see alcoholics).

Pouch opening is 13 deep x 10 across base (head).

Position of pouch to vagina 62

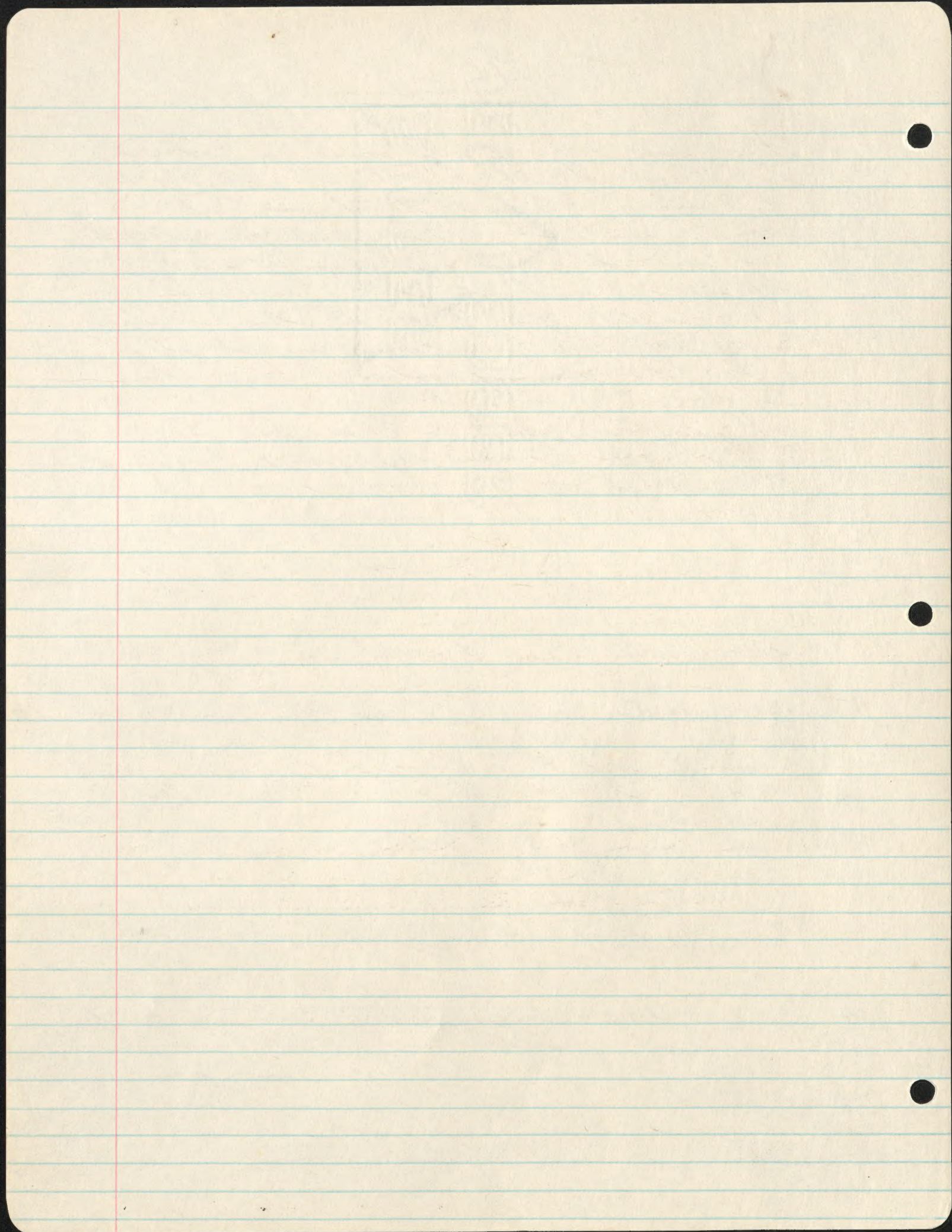
Dimension of pouch 58 long x 50 wide.

From anterior base of pouch to anterior tip was 24 mm.



Apr. 2nd

~~It was brought in by myself. Shot yesterday~~
1 shot yesterday evening. It was seen crawling through the undergrowth, some 4 ft above the ground, in the forest of the flood plain. Eyes had dull red skin. Stomach contained remains of fruit.



Pseudohydromys

Aug 8 Lake Habbema, Netherlands New Guinea 3225 m.

1 individual in 388 traps. This individual was brought in by one of my collectors from the line of traps about the north bay shore. I shall find out the exact trap in which it was caught tomorrow. The testes were large, see preserved specimen and the teeth were showing that the small beast is an adult male. It lacks the webbed toes, and the numerous vibrissae of *Hydromys*. The stomach contained what appears to be vegetable matter (see dissection material).

Aug. 9

Today the collector showed me the exact trap in which the above was caught. The trap was set in a small run way some 3 ft from the water's edge and over a steep $1\frac{1}{2}$ ft. masonry bank. The general region was that of low rhododendron & bushes with moss covering the ground and clumping up about the bushes. It was from one to another of these moss clumps that the trail led.

Sept 8 2 km N.W. Habbema, Irian, Netherlands New Guinea 3600 m.

1 in 187 traps. The trap was set at the base of the limestone cliff. Here the vegetation was separated several inches from the wall leaving a natural runway in a relatively ^{well} sheltered ^{get most of} region. In this particular spot the ground was quite moist and covered with ferns and moss. In the immediate vicinity there was a rather open growth of moss-bush which permitted scattered ~~large~~ patches of grass.

Sept 11 2 km N.W. Habbema, Irian, Netherlands New Guinea 3560 m.

1 in 404 traps. Another adult ♂ taken in the same trap in the same spot as the individual taken on Sept 8.

Sept 14 2 km N.W. Habbema, Irian, Netherlands New Guinea 3560 m.

1 in 404 traps. Brought in by collectors who said that it was taken in grass bordering the brushy hill slopes. Stomach contained animal matter. There was no sign of sexual activity, return small.

Jan 14 15 km SW Bulbul Camp, Idenburg R., Netherlands New Guinea 1800m.

3 in 425 traps. Specimen taken on open
a moderately open ^{mossy} forest floor. The vegetation is that characteristic
of the mossy forest in this vicinity, scattered large trees,
moderate ^{scattered} growth ~~of~~ and undergrowth. This genus
has been taken in this camp previously to
this date and catalogued with genus accounts as
Mylomys. For previous and more complete notes on
habitat of this genus see the accounts under Mylomys
as "small gray species".

Jan 16 1 in 420 traps. Brought in by collector.

Jan 17 2 in 419 traps. Taken in mossy forest floor near
litter heaps and undergrowth.

Jan 19 1 in 421 traps. Brought in by natives.

Jan 20 2 in 421 traps. One was taken at the edge
of a litter heap and the other at the base of a
large tree. In each case the trap was set
in a small runway and baited with dry fish.
I examined the stomach contents of both these
individuals. Each contained what appeared to
be insect remains as well as short segments of
angel worms. Vegetable matter seemed to be
lacking except for small bits which I
assumed were eaten along with the insects.

Jan 21 1 in 421 traps. Brought in by collector.
Stomach contained remains of insects, arachnids, and
possibly other small invertebrates.

Jan 22 1 in 28 stub traps. Brought in by collector.

Jan 23 1 in 421 traps. Taken beneath log in
the litter of the mossy forest.

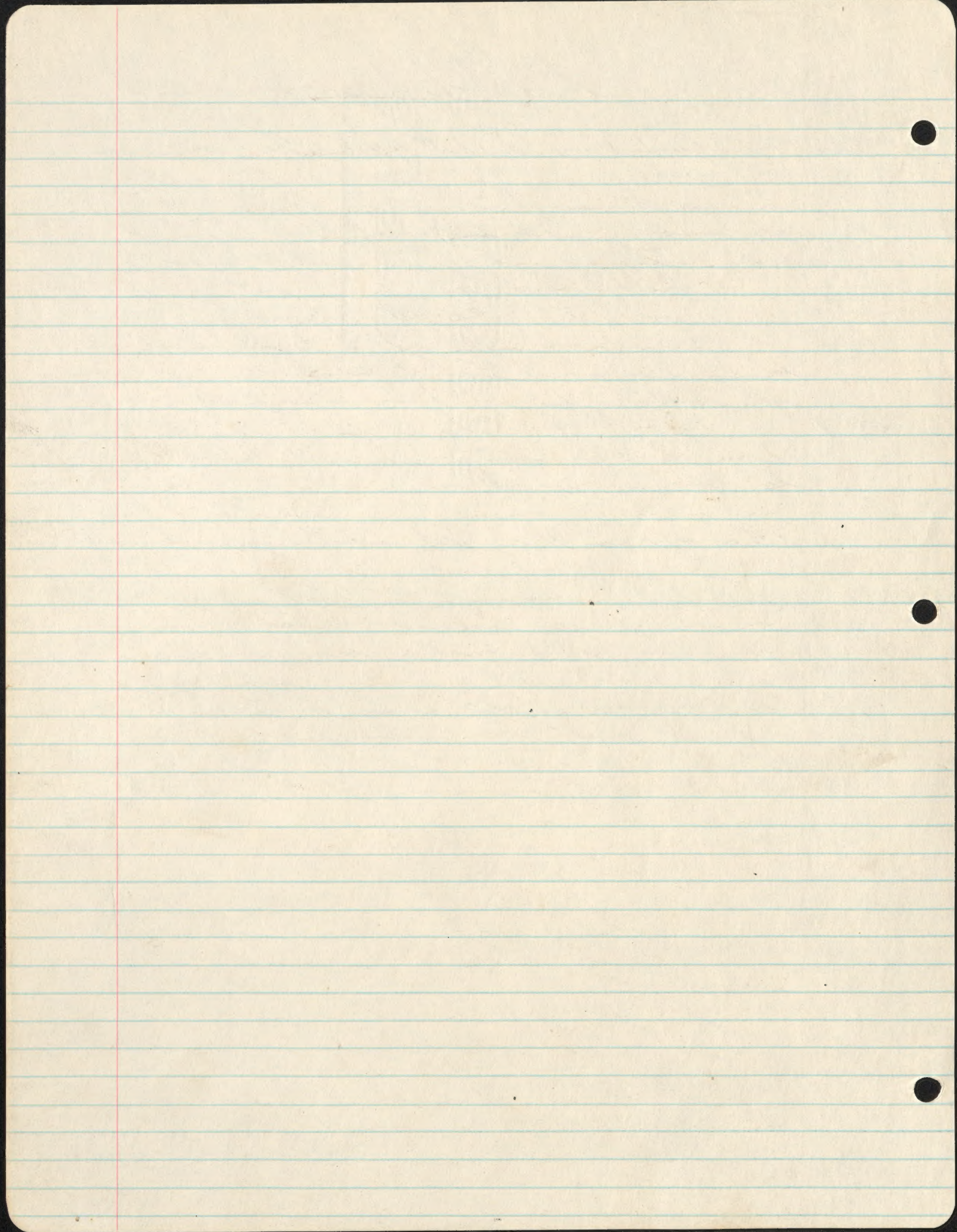
Jan 25 1 in 420 traps. Taken in runway leading from
a burrow in the moss at the base of a
large standing tree. Burrows such as this are not
uncommon about the moss which covers the
upper roots (would be aerial roots) of many of the
trees.

Jan 26 4 in 419 traps. Taken in a mossy
covered litter such as logs, etc. Seen to prefer
a moist protected (shaded) runway over the moss.

Jan 29 1 in 218 traps. Brought in by collector.

Pseudohydromys

- Feb 4 18 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 2150m.
1 in 415 traps. Taken in trap set in small
runway at the ^{side} edge of a bog on the forest floor. This
floor was mossy and partially covered by the leaf litter of
bamboos. There was a heavy undergrowth of bamboo,
scattered secondary trees in a mossy forest.
- Feb 5 1 in 411 traps. Brought in by collector
- Feb 6 2 in 411 traps. One brought in by collector, the other
taken in runway over the forest floor ~~at the~~ bordering
litter. Habitat Mossy forest with bamboo undergrowth.
- Feb 7 1 in 411 traps. Taken in habitat consisting
of mossy forest with bamboo undergrowth. Brought in
by collector.
- Feb 8 3 in 411 traps. Taken in runway at in a near
littered area in Mossy forest with bamboo undergrowth.
- Mar 16 4 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850m.
1 in 155 more traps. Taken in trap set in
obscure runway. Habitat moist hill slope with leaf and litter,
patchy undergrowth, thick secondary, scattered large trees.
This area was on a slope of one of the low ridges
above the flood plain. (Upstream from camp). Judging
from skull, skeleton & teeth I believe this forest is -
not adult. Stomach contained fruit remains and few
insect remains.



Wm B. Richardson
1938
1939

Pteropus

July 9 Hollandia, Netherlands New Guinea ^{as land.}
Yesterday evening while hunting through the jungle with flash light I found a single fruit tree in which bats were feeding. Such trees containing bats are easily located within the jungle by the intermittent harsh squeaks, and the falling of their scintillating middens. There were 5 or more individuals in the tree of which I obtained 3 specimens. Their eyes are easy to shine at night, giving forth a pale orange yellow light. The bats when seen were hanging suspended by their feet in the peripheral foliage apparently feeding in this position.

July 12 4 km. W Tabati, Netherlands New Guinea
Four of this genus were brought in today from Mr. Burkhens. It lives two kilometers inland from Pin on the road to Sentani. According to the natives description they were shot in the evening while feeding in a sugar hypoch (sp.?) plantation. Two Dobsonia were also brought in at the same time by the same boys.

Apr. 1 4 km SW Bunkland Camp Idenburg R. Netherlands New Guinea 850 m.
1 shot yesterday evening by collecting boy. According to him there were three of these bats feeding in a tall tree.

Apr. 12 Bunkland Camp Idenburg R. Netherlands New Guinea 50 75 m.
1 shot yesterday by Road. According to him it was hanging solitary in a tree.

Apr. 27 18 shot yesterday afternoon. They were hanging up in the second growth trees at the head of the lagoon. There were seen 30 and 40 individuals in the colony when first seen but when shot at they broke up into smaller

groups lighting on trees some 200 to 500 yd distant. They seemed to stay in the second growth, trees bordering this portion of the lagoon. ~~Some~~ They with sparse light green foliage which made the individuals at right plainly visible. When coming within 100 ft. of the they would then do wing circling about once or twice and commencing to rest some 200 or more yds distant. When undisturbed they remained hanging and occasionally ~~flapping~~ flapping of the wings as if to cool themselves. They were not clumped together but rather singly a distance of 4 inches or more from nearest neighbor. Mr. Horn who showed me this colony reports that this morning there were between 100 and 200 individuals. He obtained 4 as food for his Drakes.

May 3 Bernhard Camp Idenburg R. Netherlands New Guinea 50 m.

7 shot. They were hanging in the cane breaks bordering the Idenburg River. They were hanging up singly, with the exception of one ♂ and ♀, three to 5 ft. above the water. They were not hanging in the dense thicket but rather in the thinner parts where they were readily visible from the ~~shore~~ river. They made no attempt to fly when approached within 20 ft.

25th B. Rotterdam
1938

Rattus

June 21 Hollandia, Netherlands New Guinea

A single male ~~sp~~ animal was brought in this late afternoon by one of the Dyaks. He had caught it in or near the lush grass which grows about an godown. This grass is common in the lowland, uninhabited sections of Hollandia.

June 23 Hollandia, Netherlands New Guinea

Yesterday evening 8 of this genus were brought to me by people from Cuyatulu. They had caught them in their camp on the small island of the same name. This island is located at the mouth of Hollandia Bay, about 1 mile east of Hollandia itself. Price paid was 5¢ for a young and 10¢ for an adult.

This evening three more young were brought in by boys from the same island. They were purchased for 15¢.

June 24 Hollandia, Netherlands New Guinea

Seven Rattus rats were brought in by a Sentani Papuan. He had caught them in the house of his camp "Dase" on the lake. They were purchased for 40¢.

Caught another of a different species in the 391 traps. It was taken in the rain forest north east of Hollandia.

June 25 Hollandia, Netherlands New Guinea

Two young of this species were brought in to me this evening by one of our Melanesian coolies. It was caught in the vicinity of the ^{on} godown at the water front here in Hollandia. They were taken near the same spot that the June 21 animal was taken.

June 26 Hollandia, Netherlands New Guinea

While at Tebate this morning one of the boys spotted rat and all of the youngsters were in the shallow water below the village after the animal,

When I saw the beast it was vainly attempting to escape by swimming. After several captures and subsequent it was secured by a string and I purchased the animal for .10¢

June 27 Hollandia, Netherlands New Guinea.

One individual was brought in this afternoon by a native from Tolate. According to his story he caught it about the house in his camp.

June 28 Hollandia, Netherlands New Guinea.

One of the Dyak coolies brought in one individual last evening. Apparently he had caught it in or near their living quarters back of the godown.

June 29 Hollandia, Netherlands New Guinea.

One individual was brought in by a Malay collector who said he had caught it in one of his 25 traps set in the jungle. He assured me that it was caught in the jungle. It is the same sp. we have been catching about Hollandia lowlands. One of a different species was brought in by the Papuan collectors. They were taken in their 100 traps which they have set ^{up} in the rain forest 1 kilometer north-east of Hollandia.

June 30 Hollandia, Netherlands New Guinea

A juvenile was caught in one of the three traps I gave to the Melakian coolies to set in or near their room. This room is an old godown near the river and surrounded by a dense green vegetation.

July 3 Hollandia, Netherlands New Guinea

One individual caught in 443 traps. It was taken by the Papuan collectors. They have caught all of this species of Rattus in their 100 traps set in the jungle north of Hollandia.

Rattus

July 4 Hollandia, Netherlands New Guinea

Purchased (104) a juvenile of the genus from one of the local Papuans. According to his story he caught it here in Hollandia.

July 7 Hollandia, Netherlands New Guinea

My Papuan collector brought in another individual from those traps set in the jungle north of Hollandia.

Purchased (104) another local Papuan. He came in carrying the live individual by the tail so I know that it was taken in the immediate vicinity.

July 9 Hollandia, Netherlands New Guinea

Papuan collectors again came in with another individual of the same sp. as brought in on July 7 etc.

July 10 Hollandia, Netherlands New Guinea

Papuan collectors brought in another ratting from their jungle set north, ^{west} east of Hollandia.

July 12 Hollandia, Netherlands New Guinea

Two of the genus today. The smaller one purchased yesterday evening from a local papuan. The other was taken by my Papuan collector in the jungle north northeast of Hollandia.

July 16 Hollandia, Netherlands New Guinea

Two juveniles were brought in from Tabiti.

Aug. 2 Lake Habbema, Netherlands New Guinea 3225 m.

Five individuals were taken today in the 372 traps. 4 from the grassy stream side of the grassy valley north east of camp and the other along the tall green grassy border of the lake. These animals were taken in traps set in running through the grass. They differ from the larger *Stenomys* runway in that they

are more directed and less maze-like. The stomach contained grass and other green vegetable matter rather than the fruit of the Strombos stomach. One individual had a number of parasitic round worms in the stomach. This is preserved by Dr. Traubner. There were no embryos in the 24 opened today.

Aug 3 Lake Kallera, Netherlands New Guinea 3225 m.
3 individuals in 394 traps. The one individual which I took from the trap was caught in a rather small runway ~~was~~ through the high grass near the water edge.

Aug 4 Lake Kallera, Netherlands New Guinea 3225 m.
1 individual in 394 traps. This specimen was taken from ~~the~~ along the stream side where a heavy grass is to be found in the valley south east of camp.

Aug 5 Lake Kallera, Netherlands New Guinea 3225 m.
1 individual in 394 traps. This individual was taken in a trap set in the high dense grass immediately bordering the western edge of the bog. Though this dense grass border there is numerous runways of rather a large size. The region is within 100 yds of the nearest bush & trees, the surrounding country being grass and reeds in ^{semi} swampy valley.

Aug 7 Lake Kallera, Netherlands New Guinea 3225 m.
1 individuals were taken in the 388 traps. It was taken in a distinct trail through the ^{heavy} grass which borders the small stream in the grassy valley. Here there were low ^{south} bushes which were barely higher than the grass.

Aug 9 Lake Kallera, Netherlands New Guinea 3225
1 individual in 388 traps. It was taken in the heavy grass border of the lake. There was a small well defined trail in which the trap was set. A short

25 m B. Richardson
1988

3

Rattus

distance away was a rododendron thicket with
moss linged about its base.

Aug 10 Lake Habbema, Netherlands New Guinea 3225 m.

2 in 387 traps. These two were caught in
the grassy thicket bordering the lake shore.

This evening I saw one of these beasts
alive. It traveled in a semi hopping fashion
rather than the running gait of Rattus.

Aug 11 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 387 traps. The animal was taken in the
heavy grass border of the lake. Now there are numerous
runways through the grass.

Aug 12 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 375 traps. This animal was taken in a trap
set in an ill defined runway through the tall
thin grass bordering the heavy grass and reeds of
the lake shore.

Aug 13 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 375 traps. It was brought in by my collector
as I do not know when it was taken.

Aug 15 Lake Habbema, Netherlands New Guinea 3225 m.

3 in 375 traps. Two were taken in the heavy
grass bordering the lake shore the other in
the heavy grass near the tree fern thicket
west of the bay. There is one thing
constant in their habitat preference and
that is heavy grass near or bordering
a moist region.

Aug 18 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 375 traps. Brought in by collector
who said it was taken in the heavy
grass bordering the outlet stream of
the lake.

Aug 21 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 387 traps. One was taken along the
heavy grass bordering the outlet stream of the
lake, the seemingly usual type of habitat
of the species. The other was taken up
on a heavy low bushy ridge. Here there
was a rather dry conditions although there
still persisted a ground cover of moss.
There was also scattered grass through the
bush.

Aug 25 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. Brought in by collectors
from lake or outlet margins or in ^{in very bushy} forest above outlet
stream.

Aug 26 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. Brought in by collectors.

Sept 8 7 km N.E. Wilhelmina Top, Netherlands New Guinea 3560 m.
1 in 387 traps. Brought in by
collectors. Probably taken in the heavy grass
bordering the camp valley stream.

Sept 11 7 km N.E. Wilhelmina-top Netherlands New Guinea 3560 m.
1 in 404 traps. This individual was taken in
in the forest beneath a tangle of mossy logs.
It seem to me that this is rather a queer
place to find such a host, away from
what are seemingly its normal haunts of grass
thickets. However there was such a thicket within
15 ft of the trap, and within 2 ft of the trap
there was a thin small patch of sedge.

Sept 12 7 km N.E. Wilhelmina-top Netherlands New Guinea 3560 m.
One individual was caught after having been roosted at
from its nest. The nest was situated near the center
of the camp valley in a rather mossy wet short
grassy region. ~~It~~ Here there was a rhododendron
hummock about 5 ft across and 2 ft high. It was on this

Rattus

mass of stalling branches and decaying plant matter that the nests (2) and burrows were constructed. There was a mass of mounds, though the hummock with 4 or more nests. Two of the nests were apparently in use at present, but the third was a decaying mass which was no longer in use. The two new ones consisted of a mass of shredded grass material crumpled into a cavity about 10 inches in diameter. There was no apparent entrance or exit to the nest but rather a ball of grasses etc. into which the rat could crawl into from any angle. The nests were free of dung and showed signs of being the grass being continually added, for that on the outside was moist and also looking (muddy) than that of the center of the nest. I had an opportunity to see the rat in motion and to my surprise it did not use the a flying gait as the long hind feet would indicate but rather a running gait was used to evade me; it was not unlike that of *Rattus*.

Sept 15. 2km NE Wilhelmstad, Netherlands New Guinea 3560m.
1 in 363 traps. Brought in by collector.

Sept 17. 2km NE Wilhelmstad, Netherlands New Guinea 3560m.
2 in 358 traps. One was brought in by the collector the other was taken in a small runway through thick grass about a swampy pond in the camp valley. The entire region is grass with a particularly heavy growth of hard grass about bordering the pond. It was in this heavy grass border (5-10" thick) that the animal was taken.

Sept 21 2km E Mt Wilhelm, Netherlands New Guinea 3800 to 4050m.
3 in 104 traps. These three individuals were all taken in more or less a similar type of habitat, that is on the heavy grass hill slopes where there were scattered protruding rocks and Coprosma bushes.

It is my belief that these animals are to be found on the grassy hill slopes up to 4250m and possibly higher.

Sept 22 2 km E Mt. Wilhelm, Netherlands New Guinea 3800-4050m.

3 in 104 traps. These individuals existing according to the collector who brought them in were taken in the heavy grass of the mountainous slope. Probably ~~in~~ ⁱⁿ much the same habitat as those taken yesterday (Sept 21.)

Sept 23 2 km E Mt. Wilhelm, Netherlands New Guinea

3 in 104 traps. They were taken in the heavy grassy cover with scattered bushes and boulders. The traps for the most part have been set near bushes or boulders for here & runways are more clearly visible and better defined. This does not indicate, however, that the rodent does not inhabit the solid grassy gaps. There are trails; none of them leading through the grass. They might be considered as a maze of trails rather than any one well defined trail.

Sept 24 2 km E Mt. Wilhelm, Netherlands New Guinea 3800m.

2 in 104 traps. Taken ^{in runways through} the tall grass covering an old talus slope with scattered bushes and exposed boulders.

Sept 25 2 km E Mt. Wilhelm, Netherlands New Guinea 4000ft.

1 in 104 traps. Taken at the base of a rocky cliff at the edge of a old talus slope which has become completely vegetated with a tall grass.

Sept 26 2 km E Mt. Wilhelm, Netherlands New Guinea.

2 in 104 traps. Brought in by collector. The adult ♂ was said to have been taken ~~in~~ in the heavy tall grass covering an old talus slope.

Rattus

- Sept 27 2 km E Mt. Wilhelm, Netherlands New Guinea 3900 m.
4 in 104 traps. One dead. Individuals were taken in the tall grass on hill slope or at the edge of scrub grassy area where they border the open sub-alpine forest.
- Nov. 1 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
3 brought in by natives today. The rats were probably taken near their village below 2300 m.
- Nov 3 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
19 brought in by natives. They were probably taken near the small native settlements about 2300 m.
- Nov 6 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
7 brought in by natives.
- Nov 7 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.
- Nov 8 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea, 2200 m.
9 : 1 in 218 traps, 8 brought in by natives. The one from traps, ^{#5394} was set in a runway through the tall grass of ~~the~~ an old garden clearing. There was also secondary growth trees in the immediate area.
- Nov 9 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea, 2200 m.
26 brought in by natives.
- Nov 10 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
8 brought in by natives.
- Nov 11 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
12 brought in by natives.
- Nov 12 Beli R., 18 km NE Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives.

Nov 13 Bela R. 18 km N Lake Habbema, Netherlands New Guinea, 2200 m.
25 brought in by natives.

Nov 15 Bela R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 18 Bela R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
59 brought in by natives.

Nov 19 Bela R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 taken in 416 traps. In many through grassy
spot in second growth garden clearing.

Dec 9 Balin R. Netherlands New Guinea 1400 m.
1 found by Basso dead in a small
native thicket about 1/2 mile down the river and
on the ~~left~~^{right} slopes of the east bank of the river, in
an old garden clearing.

Dec 10 Balin R. Netherlands New Guinea 1400 m.
1 in 199 traps. Taken in a small runway
through the third grass which had the small
wash.

Dec 11 Balin R. Netherlands New Guinea 1400 m.
2 in 384 traps. Taken by collectors in traps
set in an about ^{abandoned} garden land or neighboring woods.

Dec 12 Balin R. Netherlands New Guinea 1400 m.
1 in 380 traps. Brought in by collectors as on Dec 11
from same trap line.

Dec 13 Balin R. Netherlands New Guinea 1400 m.
25: 2 in 380 traps. 7177 brought in by collectors
7175 taken in a grassy thicket bordering a ditch at the
edge of an abandoned garden. 23 were brought in
by natives.

Dec 14 Balin R. Netherlands New Guinea 1400 m.
9 brought in by natives.

W.B. Richardson
1938
1939

6

Rattus

Dec 15 Bahin R., Netherlands New Guinea 1600 m.
12: 9 brought in by natives, 3 in 370 traps.
Habitat is that of the grassland which occurs in the
abandoned gardens, old cast over areas.

Dec 16 Bahin R., Netherlands New Guinea 1600 m.
2 in 359 traps. Brought in by collector.

Dec 19 Bahin R., Netherlands New Guinea 1600 m.
3 in 357 traps. Brought in by collector.

Feb. 16 6 Km. SW Bernhard Camp Idubung River, Netherlands New Guinea 1200 m.
1 in 223 traps. Taken in runway through
moist clayey soil bordering a streambed. The
clayey soil was quite green and rather a heavy canopy
of forest trees. Stomach contained remains of
fruits and insects. The latter resembled etc.

Feb. 17 1 in 223 rat traps. Brought in by collector.
8 mammary glands not yet lactating. 2 emb.

Feb. 23 1 in 221 traps. One brought in by collector.
The other a ♀ was taken in an obscure runway
on the moist forest floor through the stream
side undergrowth. Heavy dense ^{low} undergrowth and complete
canopy of forest trees. The animal taken had
6 mammary glands which in consistency it much resembled
specimen collected Feb. 17.

Mar. 4 1 found dead near camp stream. Brought
in by one of Rook's boys.

Apr. 2 4 Km. SW Bernhard Camp Idubung R., Netherlands New Guinea 850 m.
1 in 2075 rat traps. Taken in trap set in
runway bordering debris thicket at the edge of
the stream. The debris consisted of fallen trees
as well as ^{stems} washed in during high water.
8 mammary glands; none lactating. No emb. Stomach
contained remains of some undetermined
woody substance.

Apr. 3 1 in 205 rat traps. Brought in by collector.
Taken along bushy river bank. No emb.

Stomach contains remains of fruit, what appeared
to be fungus, and a few insects.

May 7 Newland Camp Shubong R. Athabasca Prov. Canada 5075 m.

1 in 27 stub tipes. Brought in by collector.

Took on lower mountain slope, above Gled. plain.

Stomach contained remains of vegetable material.

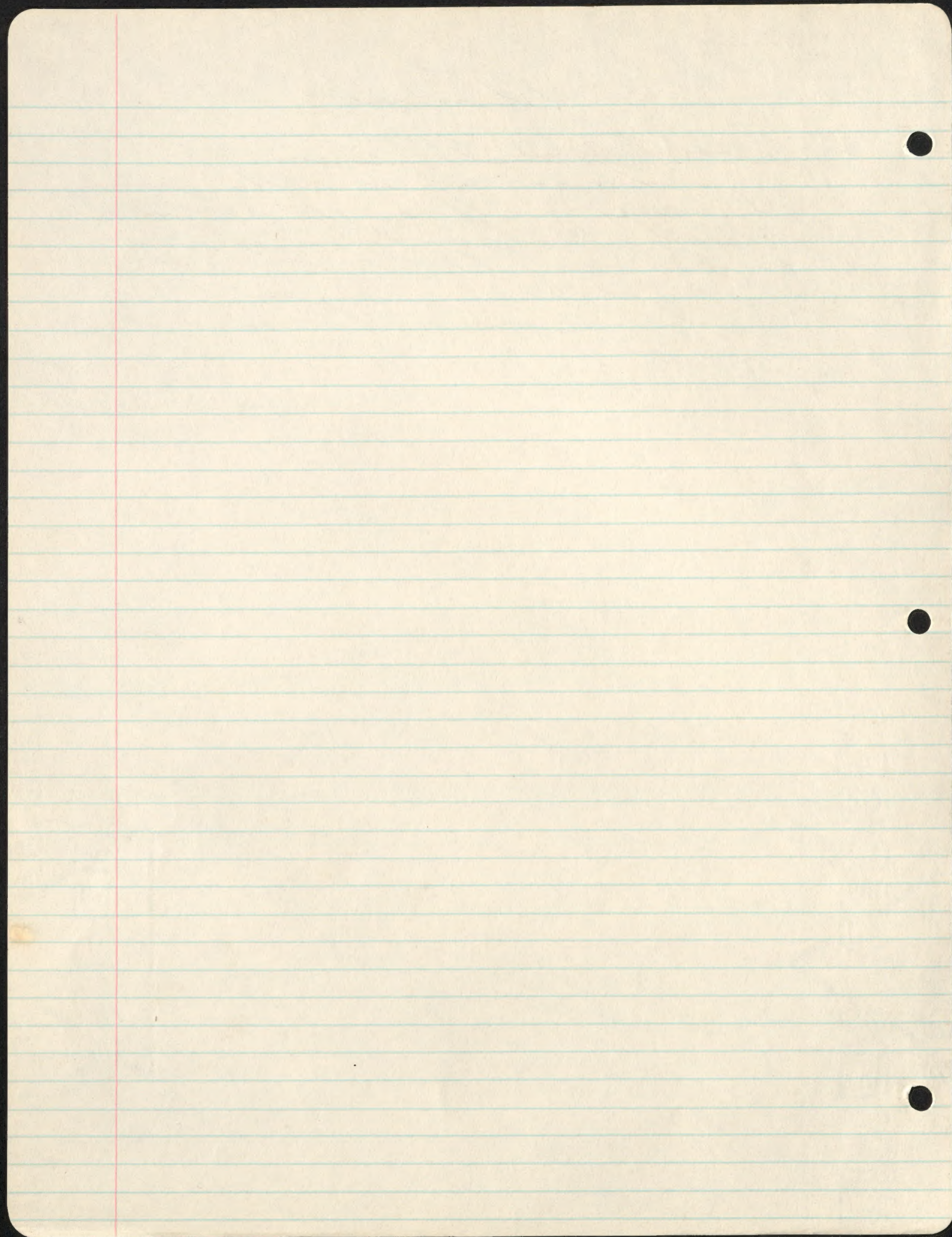
Fruit, grass?, etc.

Wm B. Richardson
1938.

Rhinolophus

July 15 Hollandia, Netherlands New Guinea.

Three specimens were taken yesterday
2 by myself in the cave in S.W. Hollandia
and the other by my Papuan collectors.
The latter was taken at the mouth of
the cave during its evening exit.
(See notes of Myotis for they were found
at the same place.)



Wm B. Richards
1938
1939

Rhinonycteris

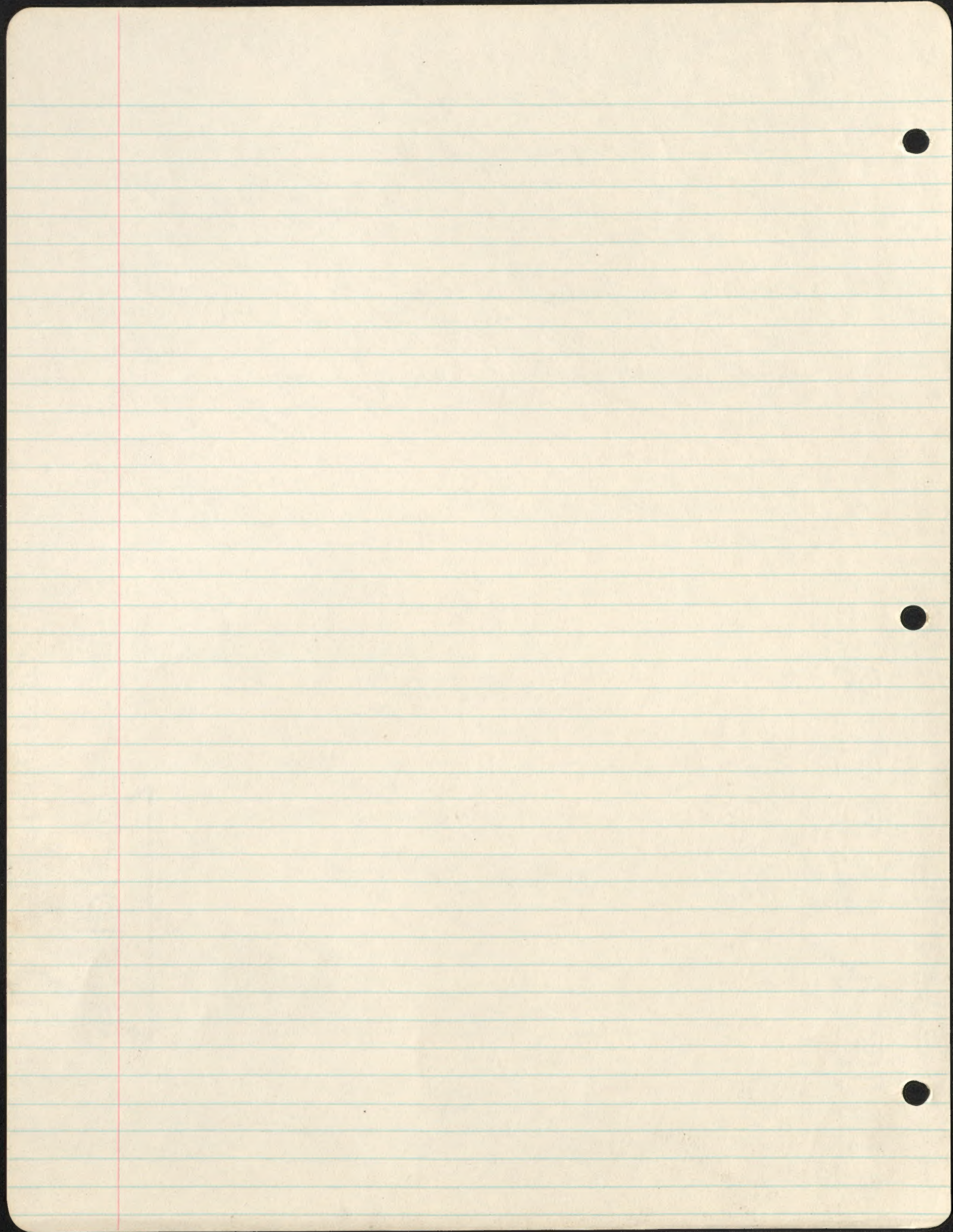
July 13 Hollandia, Netherlands New Guinea

A specimen was brought in today by a Papuan. I could not determine from him where it was taken.

May 2 Berndt Camp Idenburg R. Netherlands New Guinea 50 m.

1 shot. Flying about the forested border of the flooded lagoon. It usually keeps 10 to 20 feet above the water and close into the vegetation. Its flight is slow with few beats. The flight of this bat usually begins about 6:25 while the flight of *Pipistrellus* and *Emballurus* is 6:05.

May 4 1 shot. In same ^{locality} ~~place~~ as specimen shot on May 2.



Stenomys

July 26 Kaberna Lake, Netherlands New Guinea.

5 from 50 traps. Two of the five were taken in the moist sedge-mat thickets of the hill slope. There are small trails in and about these thickets in which the traps were set. These animals were taken ^{in the} ~~in the~~ ^{runways} ~~runways~~ through the thick grass about the border of the lake. These runways formed a maze of passageways leading in every which direction. In these runways there was little or no dry seen and only a few signs of cutting, these being blades of grass left in the runways. The stomach contents of these animals was all fleshy parts of fruit so green vegetation nor animal was observed therein. Of the three ♀ none showed signs of embryos nor of suckling young. The large ♀ had round worms in stomach and all were affected by an orange mite like looking parasite which attacked the ears, and wings and other soft but protected places. There is one thing that seems to me important to the habitat of this species and that is a moist, but low growing vegetation such as is offered by the ~~sedge~~ ^{marsh} and shore grass.

July 27 Kaberna Lake, Netherlands New Guinea.

6-100 rat traps. Three were taken on each of the two lines. Three caught in the line set along the dry ridges were collected by one of my collecting boys. The other three were taken in the traps set the 25th. One of these three were taken along a small trail in the bottom of a small gully. This trail was between two mossy clumps. The other two were taken in the grass along the lake shore. The stomachs of these animals contain what appears to be the fleshy parts of fruits. No sexual activity in the ♀s. neither suckling young nor embryos.

July 28 Kaberna Lake, Netherlands New Guinea.

1 individual taken in the 100 rat traps. 2 ♀

was taken and prepared by my collector as I can give no information as to its habitat, etc. He said however that it was taken in one of the traps set along the ridge with north east of camp.

July 29 Laberna Lake, Netherlands New Guinea 3225 m.
1 individual in 100 traps. The individual was brought in and prepared by one of my collectors. Dr. Foxvog collected 2 or 3 ticks from this individual.

July 30 Laberna Lake, Netherlands New Guinea 3225 m.
2 individuals in 150 traps. Brought in by collectors from line of traps.

July 31 Lake Laberna, Netherlands New Guinea 3225 m.
2 individuals in 150 traps one of which is apparently of a different species. It is smaller in size with shorter skull, etc.

Aug. 2 Lake Laberna, Netherlands New Guinea 3225 m.
15 individuals in 372 traps. There is apparently 2 sp. in the group and possibly a 3rd. The two juveniles of the smaller sp. were taken along in the narrow stringy trails which are to be found in the short grass and moss habitat along the lake shore. These trails are well defined and apparently have a definite direction. The trail often leads from one mossy clump to another where the trail is replaced by a burrow. These small well defined trails are quite in contrast to those of the larger species of *Stenomys*. Those of the latter species being large and with no apparent direction in mind but rather a maze of more or less defined trails throughout the region in which it exists. When the smaller species inhabits the short grassy regions and open mossy regions, the larger sp. prefers the dense grass thickets or bushy regions where there is a tangle of shrubs and

Stenomys

mouse. In such cases when their trail has a definite direction is when it follows a natural course as a small gully or the grass margin.

Aug 3 Lake Habbema, Netherlands New Guinea 3225m.

11 of this species were taken in 394 traps.

These specimens were taken in similar types of habitat as described above. There is one thing worth noting and that is the occurrence of the larger darker form in the moister heavier grass growth while the small brown sp. is to be found in the drier thinner grassy region.

Aug 4 Lake Habbema, Netherlands New Guinea 3225m.

8 individuals in 394 traps.

The larger species has a apparently inhabit a rather broad habitat. Today I caught one individual along the small trails in the low grass about the lake shore. It was in this type of habitat that I have previously caught the smaller species and Pogonomys.

Aug 5 Lake Habbema, Netherlands New Guinea 3225m.

6 individuals in 394 traps.

Two of the larger species were taken along the tracks set in the large runways through the heavy grass on the eastern western edge of the bog shore. There are numerous trails through the dense high grass on the immediate border of the lake. In similar sets I have also taken Rattus and Hydromys. Grass and reeds are the dominant vegetation within 100 yd of this region. All ♀'s were examined but for embryos but none contained such.

Aug 6.

Lake Habbema, Netherlands New Guinea 3225m.

14 individuals in 388 traps.

Of the 12 which I removed from the 191 traps set along the

stream in the grass valley east of camp and continuing up the and over the ridge north of camp. There is a wide variation in the types of habitat in which they are found. They were taken in traps set in grass thickets, in brush thickets, along about mossy Jungles, and one was taken beneath a dense high (11 ft.) brush thicket in a small canyon. The vegetation was too dense to permit an undergrowth of grass or moss but rather the ground was covered with black, wet, rotting leaves.

Aug. 7 Lake Habbema, Netherlands New Guinea, 3225 m.
13 individuals 388 traps. These individuals were caught in broad habitat with moist dense or semi dense ground vegetation (moss, grass, shrubs) seeming to be the only prerequisites for their existence in this region.

Aug. 8 Lake Habbema, Netherlands New Guinea, 3225 m.
6 in 388 traps. Five of these six were taken in the grassy valley. Here there are runways through the heavier grassy clumps and along the grassy small tributary gorges. The other three were taken along the grassy border of the lake.

Aug. 9 Lake Habbema, Netherlands New Guinea, 3225 m.
8 in 388 traps. I have nothing further to add as to their habitat, but one thing that has interested me is the fact that most of the ♀ eggs I set which I have taken in my traps have had embryos. I have examined all ♀s with the possible exception of one or two and none to my knowledge have had embryos. Many of the ♂s on the other hand have enlarged testicles as though in or approaching the breeding season.

Aug. 10 Lake Habbema, Netherlands New Guinea, 3225 m.
8 in 387 traps. These 8 were taken along the lake shore where there was a thicket about a yard or a mossy carpet. The traps in which they were caught were set in well defined trails

Stenomys

through the grass and moss. No individuals were taken in the traps set in the way of trails through the thick tall grass.

Aug. 11 Lake Habbema, Netherlands New Guinea, 3225 m.
3 individuals in 387 traps. The only one which I removed from the trap was caught in a small narrow through a narrow strip of semi heavy grass along the lake shore. Immediately back of it (2 ft) this strip is the shorter grass the type that it is considered to inhabit.

Aug. 12 Lake Habbema, Netherlands New Guinea, 3225 m.
15 individuals in 375 traps. The thing that impressed me about this catch was that these animals were taken in a wide variety of conditions, the following types of plant cover: Mossy forest where the trees were a bit thin letting sunlight into the undergrowth and mossy ground cover; open low bushy thickets with a heavy ground cover of moss which is clumped up about the base of bushes; dense grassy thickets along stream with tree ferns; low grassy region along stream; grassy valley 10 ft from bank on tree ferns; along lake shore in thin grassy region; along lake shore where there is heavy grass and reeds.

Aug. 13 Lake Habbema, Netherlands New Guinea, 3225 m.
4 individuals in 375 traps. They were brought in by my collectors so I do not know under what conditions they were taken.

Aug. 14 Lake Habbema, Netherlands New Guinea, 3225 m.
3 in 375 traps. One taken along gravelly lake shore, one in forest where there was a heavy growth of bush, the other in the low bushy area with ground moss.

Aug. 15 Lake Habbema, Netherlands New Guinea, 3225 m.
5 in 375 traps. Two from bushy forest the others from the lake shore.

Aug 14 Lake Habbema, Netherlands New Guinea 3225m.
2 in 375 traps. One taken upon the tall
grass near the bushy hill slope in the upper
valley at west of the bay. The other was
taken along the grassy lake shore.

Aug 17 Lake Habbema, Netherlands New Guinea 3225m.
2 in 375 traps. Both taken in the tall border
grass about the lake.

Aug 18 Lake Habbema, Netherlands New Guinea 3225m.
13 in 375 traps. Brought in by collectors. Taken
in various types of cover.

Aug 19 Lake Habbema, Netherlands New Guinea, 3225m.
10 in 375 traps. These animals range widely
from the grass regions to the mossy forest.
They do not seem to inhabit the dry ridges
or the regions where the ground and moss is
dry. They also do not inhabit the heavy forest
regardless of conditions of moisture. Up to date
none of the ♂ & ♀ specimens taken have had
embryos.

Aug 20 Lake Habbema, Netherlands New Guinea 3225m.
10 in 345 traps. Seven of the were taken in
the grass or mossy forest areas along the lake shore
the others were taken in the mossy forest thicket
on the moist hill slopes.

Aug 21 Lake Habbema, Netherlands New Guinea 3225m.
10 in 387 traps. They were taken in various
along the grassy margins of the lake and its
outlet.

Aug 22 Lake Habbema, Netherlands New Guinea 3225m.
3 in 382 + (21 still traps). The two specimens prepared
were taken in various through the grassy margin
of the outlet stream. The other was brought in
by a collector.

Aug 15

Stonings

Runways through old clumps of grass →

Exit to open short grass

More of small runways through large clump of grass and moss

Small Grass Clump

Bush

Lost in short grass

Clump

Bush

Short Grass

Grass clumps

Grass Clumps

Grass Valley

Stream through

Trail lost in short grass

Grass Clumps



Note: No dung or kitchen middens seen along trail although apparently used.

Aug 23 Lake Habbema, Netherlands New Guinea 3225m.

8 in 386 traps. #4792, #4793, #4794, and #4803 were taken in border of the mossy forest, 1 kilometer NNE of camp. Here there is a heavy growth of rhododendron and varicinium bush reaching a height of 8 to 12 ft. The bush is moderately green that is there is not a heavy canopy shading the floor. Over the floor is a heavy cover of moss which is changed about the bases of the bushes and their ^{low} sprawling branches. The elements of this cover that seems to differ from that of the forest is the green bush, leafy ferns, and a heavy mossy ground and basal bush cover. The other 4 individuals were taken along the lake and within grass margin. The color of these two species, the grass species of the border forest species is pronounced. Previously this has been difficult to recognize because of trapping in the grass region with bordering bushy areas. These two species apparently intermingle in such regions.

Aug 24 Lake Habbema, Netherlands New Guinea 3225m.

6 in 386 traps. The first three in the catalogue were taken in the bushy forest as described above, the others (3) were brought in by collectors. I am of the opinion that at least the first species moves about some during the daylight hours. Yesterday one was found in a trap on reaching it in the afternoon, and this morning one individual was disturbed by our approach and ran over the trail in which a trap was set. Archibald and I had the trap go off and moved the worn animal from the same.

Stenomys

- Aug 25 Lake Habbema, Netherlands New Guinea, 3225m
5 in 386 traps. #4818 taken in the
bushy forest border with a heavy mossy
ground cover. The others were taken by the
collectors along lake shore or in bushy forest near
anthrop.
- Aug 26 Lake Habbema, Netherlands New Guinea, 3225m
3 in 386 traps. Brought in by collectors.
The larger ♀ had large mammary glands, not
projecting but looked as though they had not
been long out of use. There were no embryos.
- Aug 27 Lake Habbema, Netherlands New Guinea, 3225m
5 in 386 traps. Brought in by collectors.
- Aug 28 Lake Habbema, Netherlands New Guinea, 3225m
in 386 traps. The three prepared
specimens were brought in by collectors. The
one dissection with a crushed skull was taken
at the edge of the mossy forest where with
heavy bush meets the low trees. The trap
was set along a runway at the mossy base
of a tree.
- Aug 30 Lake Habbema, Netherlands New Guinea, 3225m
2 in 386 traps. Brought in by collector. There
is one thing that should be mentioned in this
connection and that is the presence of banyans
and sphenocarpus more which often serve their
runways through the short grass region. These
plants probably exist here because the little
openings are better suited to their growth.
Perhaps fertilization and dissemination has something
to do with it. Note^(on) measured on the 15th of
this month 18cm. in diameter
- Aug 31 Lake Habbema, Netherlands New Guinea, 3225m
4 in 386 traps. The three prepared as

specimens were taken from the traps by m.
The first 2 were caught in traps set in the
bushy edge of the mossy forest, the 3rd
in a grassy sink hole bordering the
forest.

Sept. 1 Lake Habbema, Netherlands New Guinea 3225m.

2 in 194 traps. Both taken in bushy mossy-
forest borders. (Previously described) Specimen
in alcohol.

Sept. 8 7 km NE Wilhelmira Top, Netherlands New Guinea 3600m.

9 in 187 traps. 4 were brought in by collector.
The others were taken from traps set in small
runways about the ^{grassy} base of the cliffs and along
the border of grassy valley and the bushy hill
slopes. The specimens were taken in the heavy
bushy region or in the grassy ~~open~~ areas
where grass was the only vegetation. The
preference seems to be a mixture of the
two, that is grass with scattered ^{bush} clumps
or bands of grass and bush areas.

Sept. 9 7 km NE Wilhelmira Top, Netherlands New Guinea 3540m.

10 in 381 traps. The first 3 were taken
in the heavy grass bordering the camp valley
stream. The grass is coarse and thick with
runways through it. The other 7 were taken
on catclaws and taken by collector from traps
set on the hill slopes above camp.

Sept. 10 7 km NE Wilhelmira Top, Netherlands New Guinea 3540m.

5 in 381 traps. The first 2 in catclaws were taken
along the thick grass bordering the stream. The other
three were taken on the open bushy hill slopes east of camp.

Sept. 11 7 km NE Wilhelmira Top, Netherlands New Guinea 3560m.

4 in 404 traps. The first in the catclaws for today
caught was taken in a trap set in the grassy
stream side. The others were brought in by collector.

Stenomys

Sept 12 2 km N^W of Wilhelmsburg, Netherlands New Guinea 3560m.
9 in 404 traps. #4886 to 4888 were taken when the alpine forest border was grassy area. The other 6 were brought in by collectors from the line of traps which is on the hill slope N^W of camp.

Sept 13 2 km N^W of Wilhelmsburg, Netherlands New Guinea 3560m.
2 in 404 traps. Both individuals were brought in by collectors from a line of traps set on the hill slope N^W of camp.

Sept 14 2 km N^W of Wilhelmsburg, Netherlands New Guinea 3560m.
6 in 404 traps. Specimens taken in both grass land and sub-alpine forest.

Sept 15 2 km N^W of Wilhelmsburg, Netherlands New Guinea 3560m.
17 in 363 traps. 15 of the 17 were taken in the traps set yesterday along the line slope of the S^W side of the camp valley. The traps were set principally in three types of habitat: grass land, sub-alpine forest, and the forest border. 75% of the individuals taken were caught in traps set in small runways in the border forest. The other types of habitat seem relatively sterile. No apparent signs of embryos have been found as yet in this species.

Sept 16 2 km N^W of Wilhelmsburg, Netherlands New Guinea 3560m.
9 in 363 traps. These were taken in small runways through the grass and near the border forest.

Sept 17 2 km N^W of Wilhelmsburg, Netherlands New Guinea 3560m.
18 in 358 traps. Habitat as preferred is the edge of the forest where the brushy growth meets the grass. It is in such places that the majority of the individuals are caught.

Sept 18 2 km E Mt. Wilhelm, Netherlands New Guinea 3560 m.
6 in 358 traps. 5 were brought in by collectors, the other was taken just inside the oak alpine forest which borders the grassy valley.

Sept 20 2 km E Mt. Wilhelm, Netherlands New Guinea 3800 m.
2 in 104 traps. One was brought in by collectors, the other was caught in a stake trap set in a Mallomys runway. The region was one of large tallies which though age had been partly overgrown by bush and herbs. About the jumble of rocks of bush there are numerous long runways and it was in one of these that the animal was taken.

Sept 21 2 km E Mt. Wilhelm, Netherlands New Guinea 3800 m to 4050 m.
2 in 104 traps. This genus of normal was taken from 3800 m to 4050 m, the entire length of my trap line. There are two separate sp. here, one which inhabits the forest on border forest where it joins the grass land, the other, the grass land proper. The latter is restricted to the lower levels possibly not going over 4000 m while the other goes considerably higher (4250 m?) upon the grassy hill slopes of the mountain.

Sept 22 2 km E Mt. Wilhelm, Netherlands New Guinea 3800-4050 m.
1 in 104 traps. According to the collector who brought in the individual it was taken at the base of a cliff or stone on the ^{steepest} grassy hill slope. This hill slope is old tallies overgrown to grass with the alpine plants, mosses and scattered coprosma bushes.

Sept 23 2 km E Mt. Wilhelm, Netherlands New Guinea
2 in 104 traps. #4990 was taken at the lower end of my trap line where there is an open forest growth with an undergrowth of

Stenomys

grass and *Luhassia* photo. It was taken in ~~the~~ a trap set in a small runway leading from the grass beneath a scrubby tree. The other individual #4991 was taken at the upper end of the traps line where a heavy growth of grass, and an undergrowth of moss covers an old talus slope. This slope is very steep and contains scattered *Crocosoma* bushes and exposed boulders.

Sept 24 2 km E Mt. Wilhelm, Netherlands New Guinea 3800 m.
3 in 104 traps. The juvenile was brought in by collectors from the steep traps. Habitat long tall partially open with scrubby trees, shrubs, herbs and mosses. The other two were taken on the or rather at the edge of the grassy talus slope, one beneath a *Crocosoma* bush and the other at the edge of the cliff. The one taken at the high altitude by the cliff was, not the grassy form as I should have expected but rather the forest form. Apparently the forest form is more adaptive to conditions than the grassy form which I believe lives entirely within its grassy habitat.

Sept 25 2 km E Mt. Wilhelm, Netherlands New Guinea 3800 m.
3 in 104 traps. Taken in and about the tall grass of the talus. One individual a grass land form was taken in same trap as a forest form was taken in yesterday. The embryo. One specimen was taken in ^{one of the} small runways ^{at the} in the side center, or near it, of the ^{tall} grassy talus.

Sept 26 2 km E Mt. Wilhelm, Netherlands New Guinea
2 in 104 traps. Brought in by collectors who said they were taken in the open bushy forest where the ^{tall} grass dominates the undergrowth.

Sept 21 2 km E Mt. Wilhelm, Netherlands New Guinea 3890 m.
1 in 114 traps. Specimen discarded. Taken
at edge of grassy patch in open sub-alpine
forest.

Sept 28 2 km. East Mt. Wilhelm, Netherlands New Guinea 3800 m.
5 in ~~101~~ traps (1 discarded). #5024 was taken in
the middle of a tall (coarse) grass thicket which
is in the bottom of a narrow steep (sid hill)
canyon. The others were taken in small
runways at the edge of or in similar
grass patches, at sub-alpine forest border.

Sept 29 2 km. E Mt. Wilhelm, Netherlands New Guinea 3800 m.
1 in 101 traps. Caught in small runway
through moss depression beneath open
bush growth. The general region was that
of ^{very low stone} tall grass which had become overgrown
with ^{scattered} fleshy trees, mosses & *Luzula*
plants.

Oct 12 9 km N.E. Lake Habbema, Netherlands New Guinea 2800 m.
13 in 350 traps. The 4 which I removed
from the traps were taken from traps set
in runways (semi dense) beneath moss covered fallen
trees or ^{about} the mossy bases of living trees. They
seem to inhabit the bits of the mossy forest.

Oct 13 9 km. N.E. Lake Habbema, Netherlands New Guinea 2800 m.
9 in 431 traps. Their habitat appears
to be the moss covered litter and growing
vegetation which covers the forest floor. They
have runways ^{beneath} the fallen logs, about
roots and in similar protected places
beneath the mossy litter.

Oct 14 9 km N.E. Lake Habbema, Netherlands New Guinea 2850 m.
2 in 431 traps. Brought in by collectors from
traps set in mossy forest.

Stenomys

- Oct 15 9 km. NE Lake Habbema, Netherlands New Guinea 2800m
1 in 431 traps. Brought in by collectors.
- Oct 16 9 km. NE Lake Habbema, Netherlands New Guinea 2800m
3 in 431 traps. Taken in traps set beneath the mossy litter of the forest; about fallen logs, base of trees etc.
- Oct 17 9 km. NE Lake Habbema, Netherlands New Guinea 2800m.
6 in 438 traps. Habitat is that of the small trail in and about the mossy ^{covered} litter of the mossy forest.
- Oct 18 9 km. NE Lake Habbema, Netherlands New Guinea 2800m
3 in 425 traps. Caught in traps set in runways and beneath logs, etc. about the litter of the mossy forest floor.
- Oct 19 9 km. NE Lake Habbema, Netherlands New Guinea 2800m.
2 in 425 traps. Taken in the mossy forest where small trails are offered in bushy vegetation or about litter. The conditions are usually moist mossy ground or litter covering.
- Oct 20 9 km. NE Lake Habbema, Netherlands New Guinea 2800m.
1 in 220 traps. Traps set in runway through hard end litter of the semi open mossy forest.
- Oct 21 9 km. NE Lake Habbema, Netherlands New Guinea 2800m
13 in 418 traps. A thing of interest today in the specimens taken was the fact that most of them were taken in the ^{of lower canyon slopes} grassy areas, in the mossy forest rather in the pine forest of the higher ridges.
- Oct 22 9 km. NE Lake Habbema, Netherlands New Guinea 2800m
2 in 418 traps. Taken in runways through the littered bushy undergrowth of the canyon mossy forest.

Oct 23 John Mc Lach Habbema, Netherlands New Guinea 2800m.
1 in 418 traps (discarded) Brought in by collectors.

Oct 24 John Mc Lach Habbema, Netherlands New Guinea 2800m.
3 in 414 traps. 2 brought in by collectors. The other taken in ~~area~~ trail beneath the moss covered litter of the mossy forest.

Oct 25 John Mc Lach Habbema, Netherlands New Guinea 2800m
4. 3 in 414 traps, 1 brought in by natives. The other ~~high~~ taken in traps brought in by collectors.

Oct 26 John Mc Lach Habbema, Netherlands New Guinea 2800-2700m.
6 in 409 traps. Species occurs in both the rain forest and second growth forests along the stream side land slopes. The essential thing seems to be litter beneath which ^{are the} runways ~~are~~. The rain forest seems to afford a greater quantity of such runways.

Oct 27 John Mc Lach Habbema, Netherlands New Guinea, 2700m.
2 in 413 traps. Both brought in by collectors.

Oct 28 John Mc Lach Habbema, Netherlands New Guinea 2700m.
4 in 413 traps. Brought in by collectors from traps.

Oct 29 John Mc Lach Habbema, Netherlands New Guinea 2700m.
2 in 413 traps. Brought in by collectors.

Oct 30 John Mc Lach Habbema, Netherlands New Guinea 2800m.
3. 2 in 413 traps, 1 brought in by natives.

Oct 31 John Mc Lach Habbema, Netherlands New Guinea 2800m.
1 in 413 traps. Taken from beneath log in litter of mossy forest.

Nov 1 John Mc Lach Habbema, Netherlands New Guinea 2800m.
1 in 413 traps. Brought in by collecting logs.

Stenomys

- Nov 2 9 km N E Lake Habbema, Netherlands New Guinea 2800 m.
1 in 197 traps. Brought in by collectors.
- Nov 4 9 km N E Lake Habbema, Netherlands New Guinea 2800-2700 m.
2 in 347 traps. #5353 taken beneath rotting log on littered bushy canyon slope of mossy forest. The other individual brought in by native. Hunt.
- Nov 5 9 km N E Lake Habbema, Netherlands New Guinea 2800-2700 m.
4 in 347 traps. Taken in ~~and~~ littered areas of the mossy forest. Faint runways seen & he beneath rotting mossy logs.
- Nov 6 Bele River, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.
- Nov 9 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2: 1 in 309 traps, 1 brought in by natives. The one in traps brought in by collector who line of traps is in the heavy forest.
- Nov 10 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2: 1 in ³⁰⁸ traps, 1 brought in by natives. The one taken in the traps from trap set in runway about the route of a tree in the heavy forest.
- Nov 11 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives.
- Nov 12 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 308 traps. Taken in the forest litter at the edge of a small grassy opening.
- Nov 14 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2: 1 brought in by natives, 1 in 308 traps #5567. Taken in trap set in runway through bushy litter of the forest floor. The area had been rosted up by the natives pigs.

Nov 15 Bela R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov 16 Bela R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 416 traps. Taken by collectors in forested region.

Nov 17 Bela R., 10 km N Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives.

Nov 19 Bela R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
10 brought in by natives.

Nov 20 Bela R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
18 brought in by natives.

Nov 22 Bela R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4: 2 brought in by natives. 2 in 404 traps.
The biggest mouse was taken from traps set in runways beneath logs in littered forest area.

Nov 23 Bela R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 404 traps. Taken in a very dense second growth bush thicket. Trap was set in a small runway over the leaves and lost the base of the bush.

Nov 25 Bela R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 404 traps. Taken in runway through litter in of the same forest where there was an open growth of underbrush.

Nov 27 Bela R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
7: 6 brought in by natives. ²²¹⁷¹ 1 in 404 traps.
Taken in forested area, heavy undergrowth and litter, and on forest floor of leaves. Small runway.

Nov 29 Bela R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 411 traps. Taken in a littered area in the forest. Habited the heavy forest with litter and open cover of bush over the litter of logs and leafy forest floor.

Stenomys

- Dec 2 Bali R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
9 brought in by natives.
- Dec 10 Belim R. 18 km N Lake Habbema, Netherlands New Guinea 1600 m.
1 in 199 traps. Taken in a small runway
through a mixed cover of grass and shrub along a
small road.
- Dec 11 Belim R. Netherlands New Guinea 1600 m.
1 in 384 traps. Taken by collectors in trap line set
through abandoned gardens, their borders, or near by washes.
- Dec 12 Belim R. Netherlands New Guinea 1600 m.
1 in 380 traps. Taken in mixed cover of
brush and grass along drainage (?) ditch of an abandoned
native garden.
- Dec 13 Belim R. Netherlands New Guinea 1600 m.
1 in 380 traps. Brought in by collectors.
- Jan 10 15 km SW Bernhard Camp, Inderburg R. Netherlands New Guinea 1800 m.
1 in a number of part of the 193 mouse traps.
These traps were set this morning and some 5 hrs later
the animal was removed from the trap. This would
show that the heart is at least partially diurnal.
It was taken at among the tangled root base of a large tree
in the mossy forest.
- Jan 11 4 in 425 traps. This animal inhabits ~~among~~
the mossy forest where there are is little such
as log ^{mossy} rock, open root system. Traps in which
they were taken were set about beneath old moss covered
logs, at the base of trees where are exposed root systems,
and beneath moss covered rocks. There in the large
places are trails worn bare (or just lacking) of moss.
- Jan 12 3 in 425 traps (1 discard). Of the two specimens prepared
one was taken in traps set beneath a mossy log and the
other among the ^{exposed} roots of one of the forest trees.
- Jan 13 1 in 425 traps. Taken beneath log in a
runway. Runway was bare, apparently used by several sp. of mammals.

Jan 14 15 km SW Bernhard Camp, Idorung R. Netherlands New Guinea 1800m.

3 in 425 traps. Two brought in by collectors.
Other individual trapped in obscure runway through a small
undergrowth thicket of moist hill slope.

Jan 15 8 in 420 traps. In every case the beast was
taken from a runway under cover of logs, thick undergrowth
or root masses.

Jan 14 4 in 420 traps. Brought in by collectors.

Jan 17 7 in 419 traps. Taken in small runways through
undergrowth thicket or about litter.

Jan 18 2 in 421 traps. Brought in by collectors.

Jan 19 2 in 421 traps. One taken in small runway through
the undergrowth. the other was taken beneath
a log in a litter heap.

Today, about 330 PM I saw one of the animals running
along beneath a fallen log, in what would be considered to
be a well worn runway. It held its tail rather high
and stiff so it ran and jumped ^{along} ~~over~~ the rocky
surface of the run way.

Jan 20 1 in 421 traps. Brought in by collectors.

Jan 22 1 in 421 traps. Brought in by collectors.

Jan 23 1 in 421 traps. " " "

Jan 25 1 in 420 traps. Taken in a runway beneath
a small moss covered log in a littered forest
area.

Jan 26 5 in 419 traps. Taken in moist protected (sheltered)
spots such as under the cover of mossy logs, about
the exposed roots of trees, and in litter.

Feb 1 18 km SW Bernhard Camp, Idorung R. Netherlands New Guinea 2150m.

1 in 143 traps. Taken in a small runway
beneath moss covered litter in low thick mossy
forest.

Feb 4 7 in 415 traps. Taken under a moss
covered log and other litter of the mossy
forest. The area in which these were taken
differs from previous mentioned areas in that the
forest has a markedly heavy undergrowth of
bamboo which forms a leaf litter on the floor
of the forest leading to look out the moss.

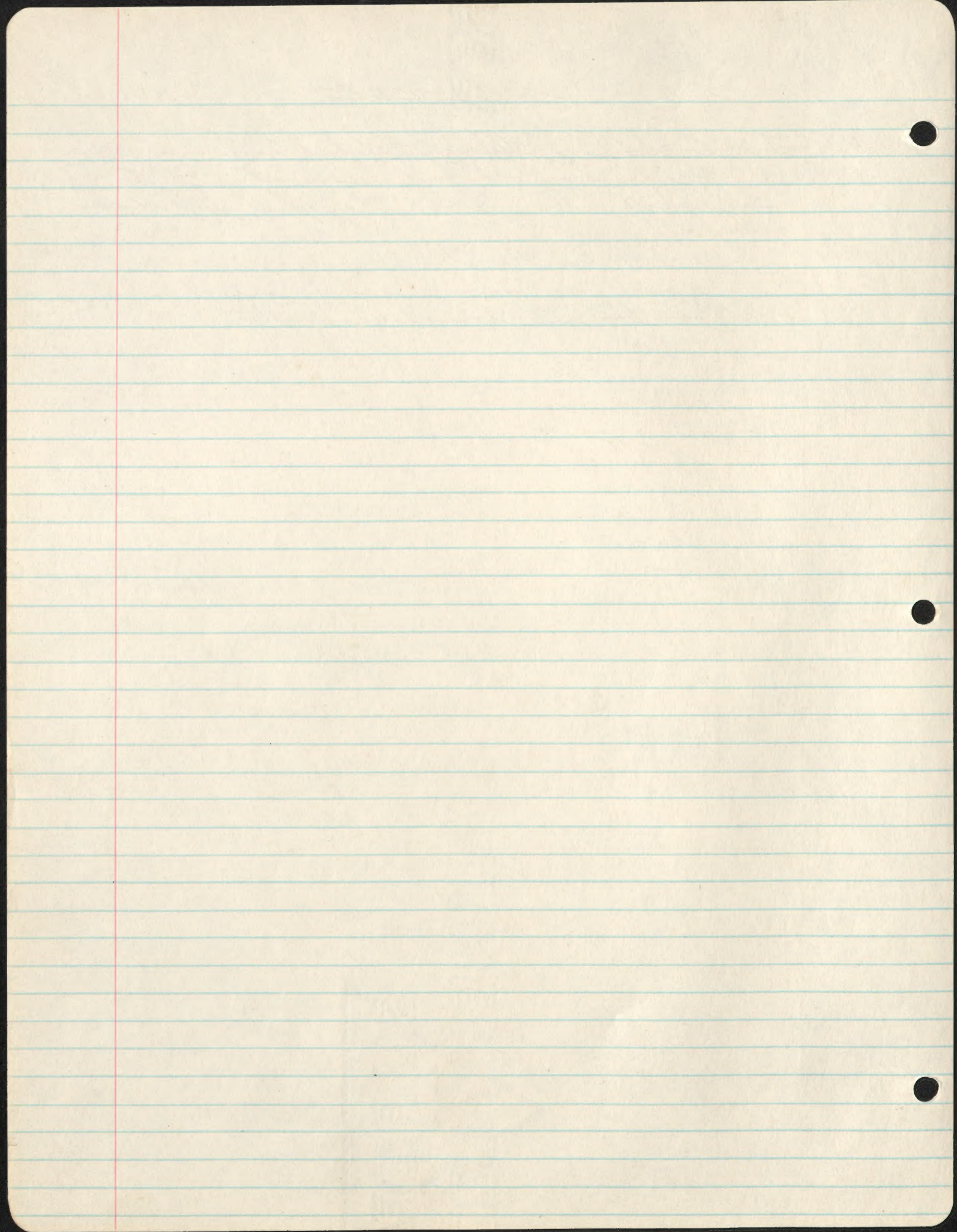
Stenomys

Feb 5 18 km SW Bunkard Camp, Harburg Co. Utah looks like Guinea 2150 m.

6 in 411 traps. Taken in and about sheltered
runway about litter. Habitat Mesqu forest with low
undergrowth.

Feb 6 1 in 411 traps. Brought in by collector.

Feb 8 3 in 411 traps. Taken about litter, in small runways.
Habitat Mesqu forest with low undergrowth.



Sus

July 5 Hollandia, Netherlands New Guinea.

A juvenile animal of this species was brought in this afternoon by a local native. According to him he caught it in a trap "Mormine". During my hunting here in the jungle I have seen many signs of this animal. Such signs are not limited to the jungle alone but to swamps and grass land as well.

July 12 Hollandia, Netherlands New Guinea.

A sub adult of this sp. was brought in yesterday by the Dyak collectors. They had shot it in the jungle near by. It did not have the looks of a jungle pig but more like the domestic ones seen in this community. Skull only was saved.

July 14 Hollandia, Netherlands New Guinea.

A juvenile of the genus was brought in today. I do not know the exact locality from which it was taken.

Aug 15 Lake Habbema, Netherlands New Guinea. 3225 m.

Up to date no signs of wild pig have been seen in this region. Since the disappearance of young animals have been seen accompanying those of natives passing through. Parts of a skull and skeleton of a small pig were seen at one of their houses near the lake. The remains had been burnt.

Dec 17 Bahia N. Netherlands New Guinea 1601 m.

1 individual brought from native. Several (4 to 6) pigs of this size have been purchased by me from the natives but they are reluctant to sell a larger one. The pigs are one of the family, living in the same house with the women, often becoming as tame as dogs. They vary in color from black to white and with all types of markings. The ♀s are often

castrated. In fact I have not seen an adult ♂ in the vicinity. The litters observed have varied from 1 to 4 young. They are an important part in the native life. Surprising food for fruit etc., guess for their black paint, guess for the bones and spears, ornaments such as tails, lower jaws, and the canine teeth.

Apr. 17 Bernard Camp Idenburg R. Netherlands New Guinea 75 m.

I shot this afternoon by collecting logs. There are many signs of pigs in this region both on the flood plain and hill slopes. They are apparently shy for they have left the vicinity of camps being necessary now to go some distance to obtain them or see fresh tracks. At the last camp 850 m. there were a few pigs in the vicinity although none were obtained. This last was barren, no emb.

Apr. 20

I shot by Rande collecting logs on upper flood plains. While out hunting today my boys saw 3 but were unable to get them.

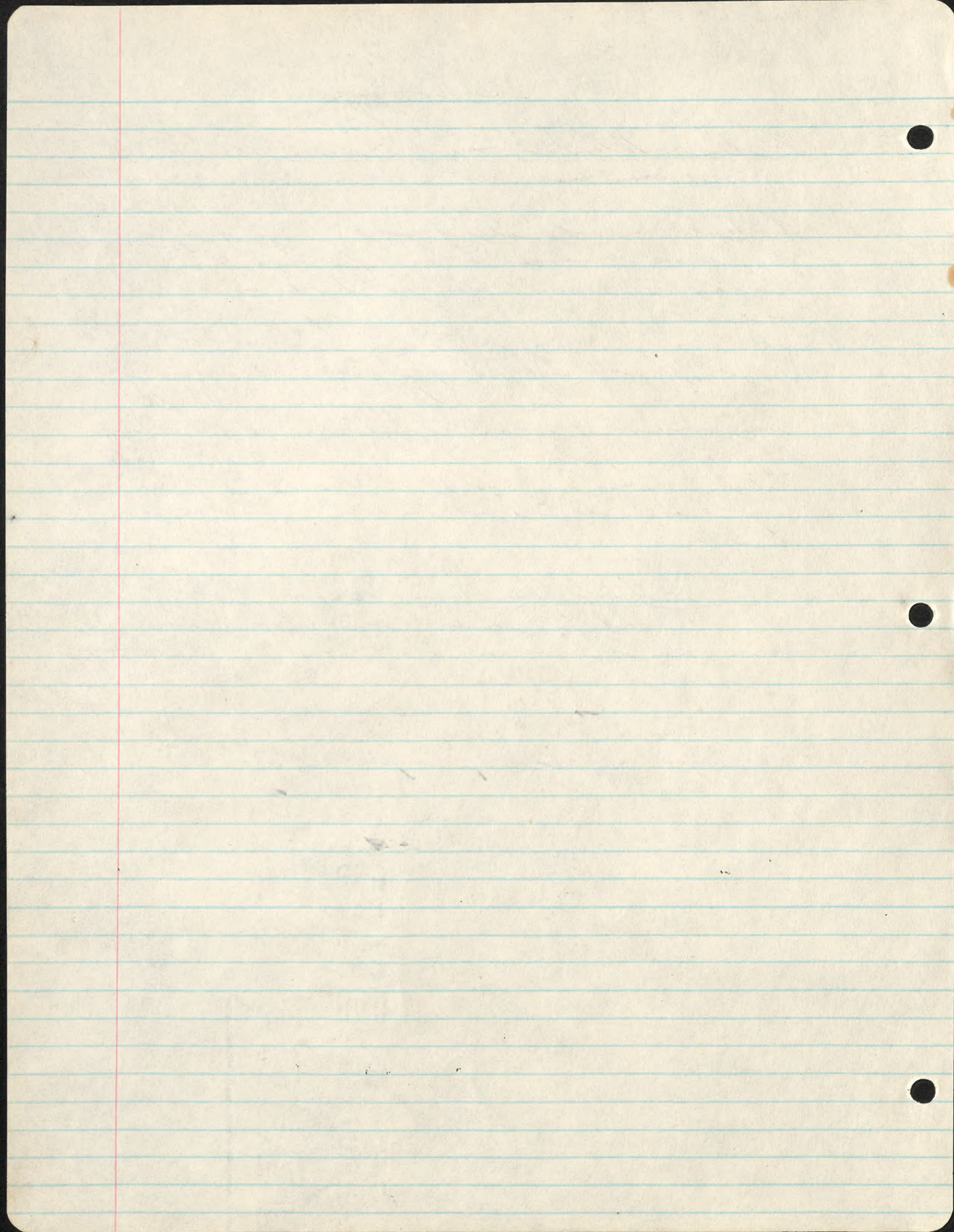
Syconycteris

Dec. 13 Balim R. Netherlands New Guinea 1600 m.

2 individuals shot. A number were seen flying low (6-10 ft. off the ground) along the open forested bank of the river. The slope of forest [?] is made up principally of casuarina and fig trees the latter furnished the, or part of, the food of this bat. They are seen congregated about these trees, flying in slightly and again flying away. The stomach contents of the 2 bats were that of figs & other types of fruit were not discernable. The bats on alighting on the branches would often utter a series of squeaks which were repeated during the course of feeding. The ♀ contained no embryos but the 2 mammary glands were functional. That is milk could be squeezed out from them. Fox collected the mites.

Dec. 16 Balim R. Netherlands New Guinea 1600 m.

1 shot by collector. These bats usually appear in this vicinity about 8:00 in the evening and seemingly coming east from the south.



Wm D. Richardson
1938
1939

Thomomys

- Oct 17 9 km NE Lake Habbema, Netherlands New Guinea 2800m
1 in 24 stub traps. Brought in by collector. Probably
taken in traps set in one of the dykes, well defined
runways which are fairly common on the floor of
the swamp forest.
- Nov 10 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m
1 brought in by natives. Virgin forest.
- Nov 17 Beli R. 15 km N Lake Habbema, Netherlands New Guinea 2200m
1 brought in by natives. v.g.
- Nov 20 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
1 brought in by natives.
- Nov 21 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
2 brought in by natives.
- Nov 25 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
1 brought in by natives.
- Nov 28 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
2 brought in by natives.
- Dec 1 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
2 brought in by natives.
- Dec 3 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
1 brought in by natives.
- Dec 4 Beli R. 18 km N Lake Habbema, Netherlands New Guinea 2200m.
1 brought in by natives.
- Feb 6 18 km SW Bundab Camp, Port Moresby P., Netherlands New Guinea 2150m.
1 in 27 stub traps. Brought in by collector. Said
it has been taken in traps set on hard floor over
open forest floor. Habitat mossy forest with
bamboo undergrowth. The sign of a comb. or gng.
Animal very fat.

Feb. 10 18 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 2150 m.

1 in 32 snares. Brought in by collectors. Taken in a large runway ~~over~~ along a ridge. Habitat mossy forest. This animal was one which had previously been taken in a steel trap but had escaped leaving its foot behind (now in pocket). It was caught in a snare some $\frac{1}{2}$ km away from any steel traps. I ~~wonder~~ wonder if this animal under ordinary circumstances covers such a large area. Stomach contained remains of fruit. There are only 4 pair of mammary glands. Not lactating. No signs of emb.

Feb. 14 6 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.

1 in 27 steel traps. Brought in by collector. Testes enlarged.

Feb. 15. 1 in 17 steel traps. Brought in by collector. Stomach contained fruit remains. No green stuff apparent. Testes enlarged.

Feb. 25 1 in 134 snares. Taken in a runway on a large mossy log which formed a low bridge over a small stream. Habitat streamside low open undergrowth, thick second story growth shading the stream and open forest. Stomach contained the remains of fruit.

Feb. 27 1 in 182 snares. Male with testes enlarged. Long vibrissae rays of which were removed during careless preparation of the specimen.

Mar. 2 1 in 182 snares. Brought in by collector. Stomach contained remains of fruit. There were only 2 posterior pair of mammary glands. 1 emb. present.

Mar. 5 1 in 27 steel traps. Brought in by collector.

Mar. 7 1 in 231 snares " " " "

Mar. 8 4 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.

1 in 87 snares. Brought in by collector. Stomach contained remains of fruit. No emb., vagina open enlarged. 4 mammae [2 pair] present. According to collector taken in forest.

Thomomys

Mar. 9. 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850m.

1 in 141 snares Brought in by collector.

Stomach contained fruits. No emb. 4 (2 per.) mammae.

Mar. 12

1 in 27 stake traps. Brought in by collector.

Mar. 12 6 Km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1250m.

1 in 231 X2 snares. Brought in by natives. No

emb. Stomach contained remains of fruit. 4 (2 per.) gestation mammae.

Mar. 21 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850m.

1 in 670 snares. Brought in by collector.

4 mammae (gestation). No emb.

Mar. 27

1 in 27 stake traps. Brought in by collector. Taken

in trail along ridge through mossy forest.

Stomach empty. Testes enlarged.

Mar. 28

1 in 845 snares. Brought in by collector.

Mar. 31

1 in 27 stake traps. Brought in by collector.

Taken on a ridge in the mossy forest.

4 Mammae ^{large} gestation, not lactating. No emb. Stomach contained fruit remains.

Apr. 3

1 in 987 snares. Brought in by collector.

Apr. 4

1 in 998 snares. Brought in by collector.

Apr. 7

1 in 1075 snares " " " "

Apr. 14 Bernhard Camp Idenburg R. Netherlands New Guinea 75m.

1 in 27 stake traps. Brought in by collector.

Taken on an ridge of ^{lower} foot hill. Stomach contained remains of fruit.

Apr. 15

1 in 27 stake traps. Brought in by collector.

Also taken on ridge ^{at base of forest hills} above flood plain.

Apr. 16

2 in 268 snares. Brought in by collector.

When taken on lower mountain slopes just above flood plain.

Apr. 30

1 shot last evening. When first seen

scampering through shallow water and over the litter of the recently inundated forest of the lagoon border. On being pursued it climbed a tree some 6 ft up where it was shot. I climbed up the trunk of this tree trying

to the vines. It moving rapidly and easily. 4 mammary glands were functional.

May 1, Deerband Camp, Chitong B. Netherlands New Guinea 50 m.

1 shot yesterday evening. It was on one of the narrow strips of ^{exposed} land along the flooded lagoon. High water has made these areas into islands. They are usually forested with a lower tree vegetation than the lower, more frequently inundated, areas. The rat was seen running along the ground through the undergrowth when it was shot.

May 8

1 in 27 steel traps. Brought in by collector. Taken on low mountain slope.